THE JOURNAL OF

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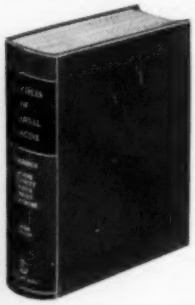

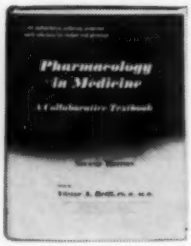

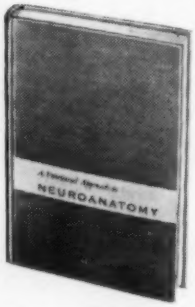

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News from the Medical Schools: Material for this section should be transmitted to the News Editor, Miss Neva Resek, 2530 Ridge Avenue, Evanston, Illinois. Announcements of major faculty and administrative appointments, news of distinguished visitors and significant educational developments will be included. It is not possible to publish notices on grants-in-aid for scientific research.

Items of Current Interest: Audio-visual news and notices from national and federal agencies appear in this section.

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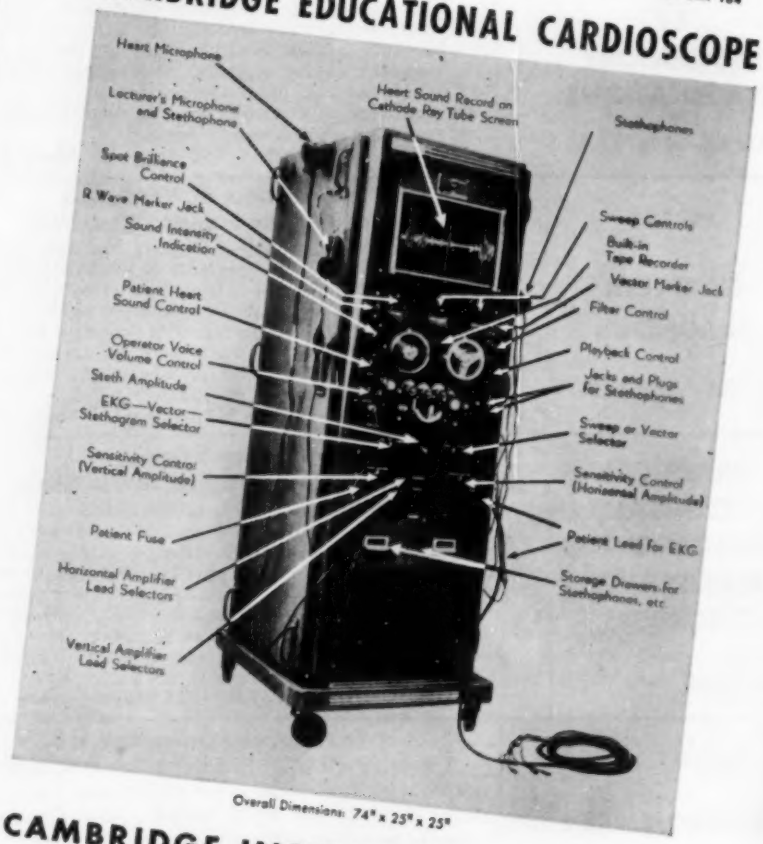

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71st Annual Meeting, October 31–Nov. 2, 1960
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1960

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AMERICAN HOSPITAL ASSOCIATION, Civic Auditorium, San Francisco, Aug. 27–Sept. 1. Mr. Maurice J. Norby, 18 E. Division St., Chicago, Assistant Director.

CONFERENCE ON THE CHEMICAL ORGANIZATION OF CELLS: NORMAL AND ABNORMAL, University of Wisconsin, Madison, Aug. 25–27. Dr. J. F. A. McManus, Dept. of Pathology, University of Alabama Medical Center, Birmingham, Chairman.

SEPTEMBER

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COLLEGE OF AMERICAN PATHOLOGISTS, Palmer House, Chicago, Sept. 24–27. Dr. Arthur H. Dearing, 2115 Prudential Plaza, Chicago, Executive Director.

NATIONAL CANCER CONFERENCE, AMERICAN CANCER SOCIETY, INC., AND THE NATIONAL CANCER INSTITUTE, Minneapolis, Minnesota, Sept. 13–15. Dr. Roald M. Grant, 521 W. 57th St., New York 19, Coordinator.

OCTOBER

ACADEMY OF PSYCHOSOMATIC MEDICINE, Benjamin Franklin Hotel, Philadelphia, Oct. 13–15. For information write Dr. Bertram B. Moss, 55 E. Washington, Chicago 2.

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INTERSTATE POSTGRADUATE MEDICAL ASSOCIATION OF NORTH AMERICA, Pittsburgh-Hilton Hotel, Pittsburgh, Oct. 31–Nov. 3. Mr. Roy T. Ragatz, Box 1109, Madison 1, Wis., Executive Director.

NOVEMBER

AMERICAN SOCIETY OF TROPICAL MEDICINE AND HYGIENE, Biltmore Hotel, Los Angeles, Nov. 2–5. Dr. Rolla B. Hill, 3575 St. Gaudens R., Miami 33, Fla., Executive Secretary.

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PUERTO RICO MEDICAL ASSOCIATION, Santurce, Nov. 15–19. Mr. Jesus A. Sanchez, P.O. Box 9111, Santurce 29, P.R., Executive Secretary.

DECEMBER

AMERICAN ACADEMY OF DERMATOLOGY AND SYPHILOLOGY, Palmer House, Chicago, Dec. 3–8. Dr. Robert R. Kierland, First National Bank Bldg., Rochester, Minn., Secretary-Treasurer.

AMERICAN RHEUMATISM ASSOCIATION, Sheraton Dallas Hotel, Dallas, Texas, Dec. 9. Mr. Gerard W. Speyer, 10 Columbus Circle, New York 19, Executive Secretary.

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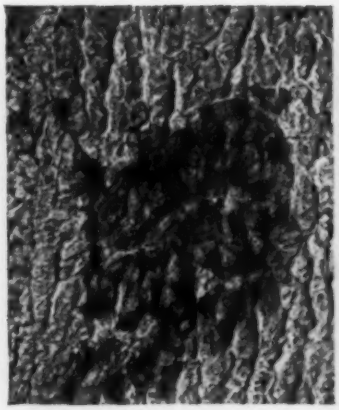
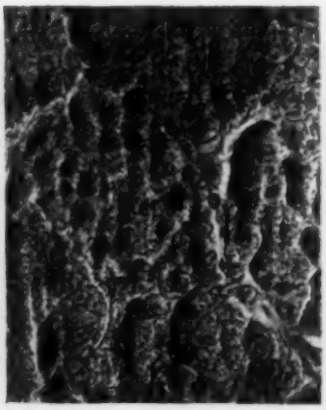
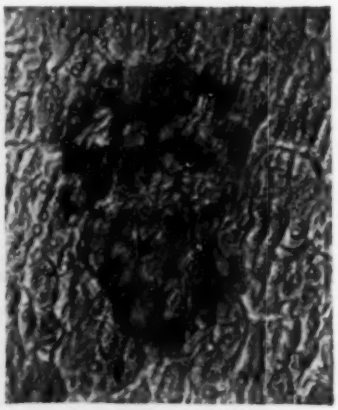


Before:
Microphotograph showing insulin granules in beta cells of pancreas of normal dog.



During:
Degranulation following administration of Orinase. Note complete release of native insulin.



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1. Gorman, C. K., and Weaver, J. A.: Brit. M. J. 2:1214 (Dec. 5) 1959.
2. Case data courtesy Henry Dolger, M.D.

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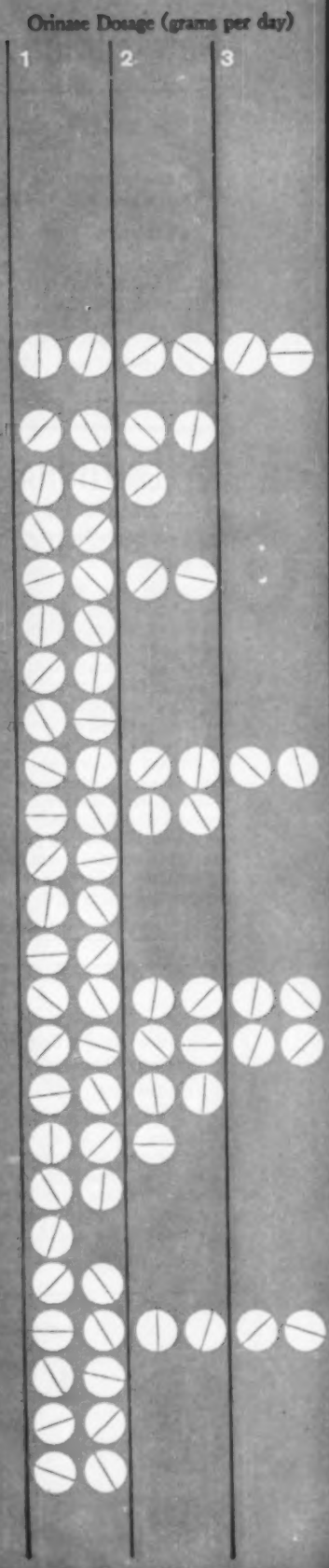
Date	Entries and Comments
6/21/56	Mr. J. S., 54 yrs. old, diabetes mellitus 1¼ yrs. F. H.—neg. for diabetes. P. H.—surg. 0, med. 0. Restaurant manager—M., 3 children living and well. Wt. 155 lb. 1 yr. ago; now 125. P. I.—onset 1½ yrs. ago with thirst and polyuria; glycosuria found. On diet. In past year lost 30 lb., strict diet—all kinds of dietetic substitutes. Some asthenia. Afraid of insulin. No recent glycosuria or nocturia. P. Exam.—thin male. Fundi neg. ENT neg. BP 140/80. Heart and lungs neg. Extremities: poor pulses. Urine—sugar 0, acetone 0. Noon blood sugar 240. Rx more adequate diet and Orinase 3 Gm.
7/9/56	Wt. 127, urine 0-0. B. S. 110, occ. nocturia but no glycosuria. Rx: eat more, Orinase 2 Gm.
8/29/56	Wt. 139½, urine 0-0-0. B. S. 205. Rx 1.5 Gm.
10/1/56	Wt. 143, urine 0-0-0. B. S. 125. Rx 1 Gm.
11/5/56	Wt. 148, urine 4+ -0-0, noon B. S. 160. Rx 2 Gm.
12/7/56	Wt. 146, urine 0-0-0, noon B. S. 120. Rx 1 Gm.
1/11/57	Wt. 144½, urine 0-0-0, noon B. S. 150. Rx 1 Gm.
3/11/57	Wt. 144½, urine 0-0, noon B. S. 120. Rx 1 Gm.
5/10/57	Wt. 140½, urine 4+ -0-0. B. S. 275. Rx 3 Gm.
6/12/57	Wt. 138½, urine 0-0-0, noon B. S. 114. Rx 2 Gm.
8/7/57	Wt. 136½, urine 0-0-0. B. S. 100. Rx 1 Gm.
10/2/57	Wt. 136½, urine 0-0-0. B. S. 85. Rx 1 Gm.
11/29/57	Wt. 136½, urine 0-0-0. B. S. 123. Rx 1 Gm.
1/17/58	Wt. 134¼, urine 4+ -0-0. B. S. 216. Rx 3 Gm.
2/14/58	Wt. 132, urine 0-0-0. B. S. 135. Rx 3 Gm.
3/28/58	Wt. 136½, urine 0-0-0, noon B. S. 93. Rx 2 Gm.
5/6/58	Wt. 138, urine 0-0-0. B. S. 112. Rx 1.5 Gm.
6/16/58	Wt. 137, urine 0-0-0. B. S. 93. Rx 1 Gm.
8/11/58	Wt. 138, urine 0-0-0, noon B. S. 132. Rx 0.5 Gm.
10/20/58	Wt. 134, urine 3+ -0-0. B. S. 220. Rx 1 Gm.
11/24/58	Wt. 131½, urine trace -0-0. B. S. 251. Rx 3 Gm.
2/18/59	Wt. 134, urine 0-0-0. B. S. 120. Rx 1 Gm.
4/9/59	Wt. 137½, urine 0-0-0. B. S. normal. Rx 1 Gm.
6/5/59	Wt. 138, urine 0-0-0. B. S. normal. Rx 1 Gm.



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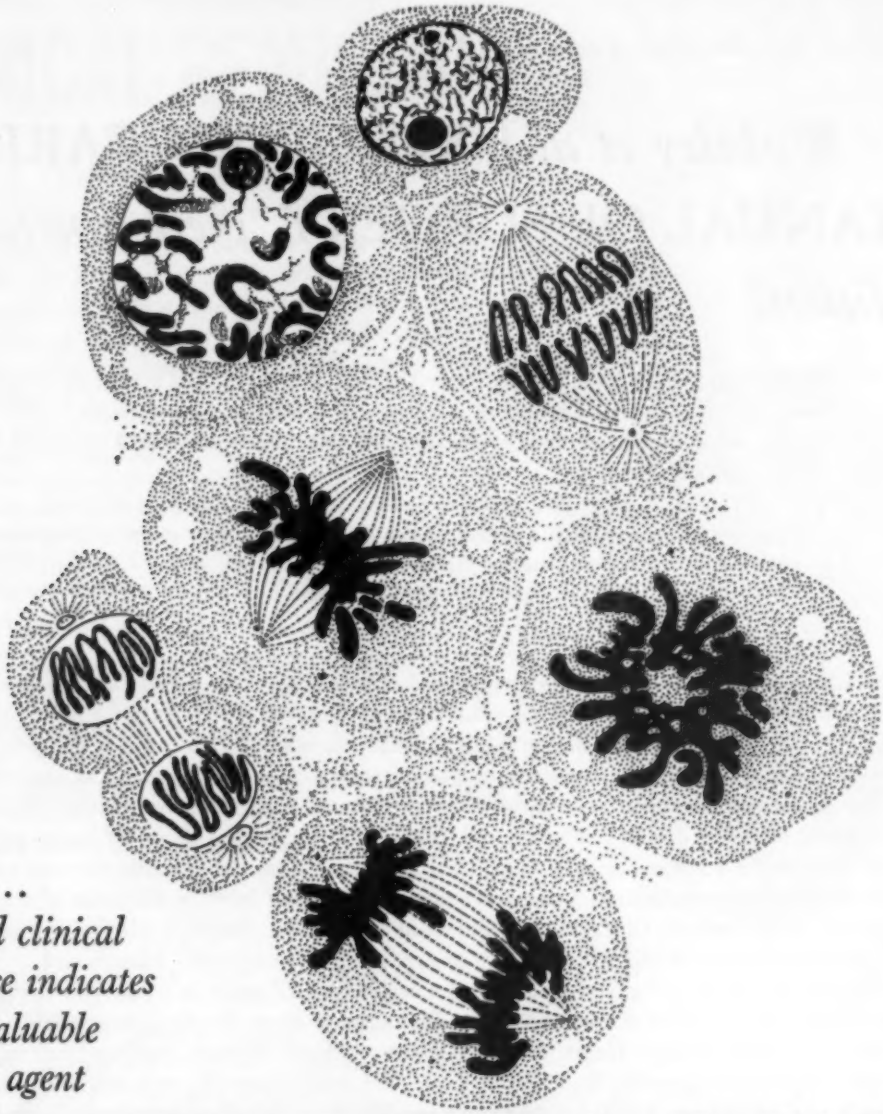

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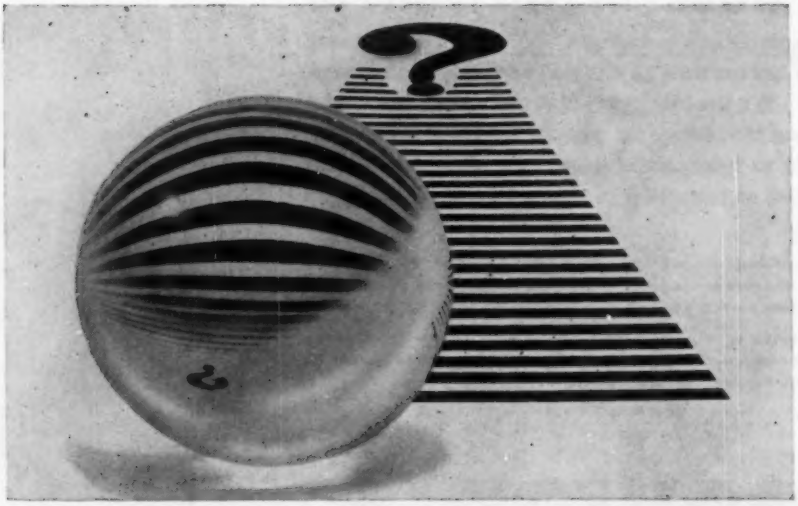

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References: 1. Dowling, H. F.: Postgrad. Med. **23**:594 (June) 1958. 2. Gimble, A. I.; Shea, J. G., and Katz, S.: Antibiotics Annual 1955-1956 New York, Medical Encyclopedia Inc., 1956, p. 676. 3. Long, F. H., in Kneeland, Y., Jr., and Wortis, S. B.: Bull. New York Acad. Med. **33**:552 (Aug.) 1957. 4. Rein, C. R.; Lewis, L. A., and Dick, L. A.: Antibiotic Med. & Clin. Ther. 4:771 (Dec.) 1957. 5. Stone, M. L., and Mersheimer, W. L.: Antibiotics Annual 1955-1956, New York, Medical Encyclopedia Inc., 1956, p. 862. 6. Campbell, E. A.; Prigot, A., and Dorsey, G. M.: Antibiotic Med. & Clin. Ther. 4:817 (Dec.) 1957. 7. Chamberlain, C.; Burros, H. M., and Borromeo, V.: Antibiotic Med. & Clin. Ther. 5:521 (Aug.) 1958. 8. From, P., and Alli, J. H.: Antibiotic Med. & Clin. Ther. 5:639 (Nov.) 1958.

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The Journal of MEDICAL EDUCATION

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Teaching Medical Students To Evaluate Drug Advertising

SOLOMON GARB, M.D.*

Department of Pharmacology, Albany Medical College, Albany, N.Y.

For the past 3 years, the Department of Pharmacology of Albany Medical College has incorporated a drug advertising evaluation project into the second-year pharmacology course. In a recent article (9) the reaction of the first class of students to be exposed to the program was described. A considerable number of medical educators have expressed interest in this project, and in about twenty schools similar projects are either in progress or under consideration. Several educators have suggested that the project be described in sufficient detail to allow others to adapt it to their own programs. It was decided, however, to defer such detailed description until certain inadequacies which became apparent in the first year were corrected and tested in subsequent years. It is now believed that the project as constituted has proved successful enough to warrant its detailed description.

PURPOSE

The need for a project in the evaluation of drug advertising was suggested by reviewing the influence of drug advertising on medical practice. It seemed clear that this advertising was exerting an unprecedented influence on the physicians' prescribing, much of it unfavorable. Apparently other educators have come to similar conclusions.

Bean (2) points out "there is every indication that at the moment beguiling advertising of pharmaceutical houses has to a substantial degree replaced formal graduate medical education concerning therapy." Forkner (8) states "The commercialistic factor has crept into therapeutics to such an extent that physicians everywhere are confused and misled by the literally thousands of drugs increasing in number daily." Dowling (4) reports that "the bewildered physician prescribes by suggestion and not from information." Beckman (3) discussing ads in medical journals, advises "Please, if you must study the more gaudy of them at all, do so with a sour scepticism and a jaundiced and cynical eye. Be advised and aware that in some instances the journal references embodied in these advertisements are to preliminary findings that do not apply at all directly to the clinical claims that are made, and that in other instances the references are to publications that have actually been written by the pharmaceutical house staff itself for the inexperienced investigators who have made the clinical trials." Lasagna (11) points out that ". . . many physicians and educators resent the role the drug houses

* United States Public Health Service, Senior Research Fellow, SF-11.

play in shaping medical practice via the various means described earlier. . . ."

Clearly, there is intense dissatisfaction with the existing situation. On the other hand, it seemed as if the current practice of simply telling or warning medical students to beware of ads, to prescribe by generic names, to evaluate drugs critically, etc., was having less than the desired effect.

It seemed that the best solution to the problem lay in improved medical education. As Bean (2) has pointed out, "Medical education should be thorough enough that a well-trained graduate will be able to continue to make his way through the increasing wilderness of new therapeutic agents with some hope of using rational judgement."

Accordingly, a project was designed to help the future physician cope with the advertising pressures to be expected. It was felt that an evaluative procedure would be most effective, for several reasons. First, the student is more likely to remember information which he himself has uncovered and evaluated. Secondly, a technique of evaluation would be demonstrated and applied, which was expected to be satisfactory in the hands of sophomore medical students and could, therefore, be easily adapted for use by a graduate physician. Finally, since the evaluations, reports, and comments would come from the students and their classmates, this project would bypass one of the most effective rebuttals by the pharmaceutical industry in the past—that criticisms of drug advertising come mainly from perfectionist, ivory-tower academicians or advocates of socialized medicine.

METHOD

Each year, improvements have been incorporated into the project. Some of the changes were developed by the faculty, but the major modifications were suggested by students in unsigned questionnaires at the end of each yearly project.

During the first 2 years of our drug evaluation project, we considered individual drugs, selected at random from boxes full of mailed ads. From evaluations of these products and the advertising campaigns associated with them, we made generalizations about the pharmaceutical industry as a whole. In the third year, we revised this approach to consider each major company individually. This change seems to be of considerable value. It is, of course, useful to demonstrate to the students the ways in which drug advertising can mislead physicians. However, by considering each company separately, we add another factor. The student has at least a list of some companies which he feels can be trusted. This list may be modified later, but it is a nucleus. We hope that, over the years, our students will continue to separate the reliable from unreliable companies, and, as suggested by Dowling (4), "They should not listen again to someone who has misled them once." If this is done widely in the nation, other benefits may accrue. At present, economic forces seem to favor the misleading advertiser, despite industry and some medical society statements to the contrary. However, if many physicians are trained to evaluate claims critically, and if they try to prescribe only products of the reliable firms, the economic forces will tend to favor the reliable firms.

Furthermore, by considering each company separately, we avoid the possibility of giving too much attention to a company which overloads the mails. With the older system, it was possible to pay more attention to a small firm with large mailings than to a large firm with a more discrete mailing policy.

In general, the information supplied by the company through its mailed ads, journal ads, detail men, and in answer to a direct query was evaluated. Then, it was compared with the information in a series of references furnished by the faculty. Based on this comparison, the companies' claims were rated as reliable or unreliable.

The class sessions took four periods, totaling 11 hours. The first session, of 2 hours, was scheduled during the 6th week of the pharmacology course. The second session of

3 hours came during the 8th week of the course, the third session of 3 hours during the 10th week, and the final 3 hour session during the 12th week.

The 2 weeks between the first and second sessions allow the students to read the general references. The interval between second and third sessions is needed for study of specific references. The 4-week interval between first and third sessions is needed in order to allow time for the drug companies to answer the letters of inquiry. In a few cases, the replies came more than 4 weeks later, so that the 6-week interval between first and fourth sessions was useful for evaluation of the tardy replies.

The faculty carefully refrained from any comments on a specific company or drug until the students had reported on them.

Preparation for first session.—In preparation for the project, all the drug advertising received by a faculty member for a 4-month period was saved. In general, it would be preferable to obtain the ads from a physician who has an extensive private practice, since he will be on a mailing list which is less selective than the list medical school faculty members are on.

The ads were sorted and grouped by companies. The names of the fourteen largest companies were each written on pieces of paper for random drawing by the students. Also, the names of twelve smaller but still prominent companies plus the A.M.A. and the F.D.A. were each written on pieces of paper for a second randomized drawing. Thus, 26 of the leading companies were studied.

The class was split into two halves, each consisting of about 30 students. Thus, each session was run in duplicate, except for the final session which was scheduled for the entire class as a unit.

The students worked in groups of four or five. We had fourteen such groups, seven in each half of the class.

First session.—At the first session, a representative of each group drew a slip of paper with the name of a large company, and a second slip with the name of a smaller company (or A.M.A. or F.D.A.). The students then received folders with all the ads sent by the respective companies. Between two and five were to be selected for study. In a few cases, there were no mailed ads received from the company, and the students chose two or more of their drugs listed in *Physicians' Desk Reference.*

At the end of the session, each student received several mimeographed fact sheets concerning pharmaceutical advertising, as well as a list of general references. The mimeographed fact sheets were prepared by the author, using data obtained from publications of the drug industry. The general references discuss the problems of drug advertising in general, not specific companies or drugs. The first references point out the importance of drug toxicity as a major cause of morbidity and mortality, emphasizing the importance of rational choice of drug therapy. The next references present the viewpoint of spokesmen for the pharmaceutical industry. The remainder point out how serious the problems of excessive and misleading advertising have become. These references, written by practicing physicians, were presented to convince the students that the problem is neither academic nor inconsequential to the physician in practice. Most of the references were kept on the library reserve shelf in replicate, with the use of photocopies.

The students were also asked to prepare letters to each company, on department letterheads, requesting further information, including toxicity and side effects, on the drugs being evaluated. These letters were handed to the department secretary during the next 2 days, stamped "Approved—Dep't. of Pharmacology, Albany Medical College," countersigned by a physician on the faculty, and mailed. The countersignature and letterhead are needed, because a number of firms refuse to answer letters sent by anyone other than a physician. The letters to the drug manufacturers were directed to the persons and addresses given in *Physicians' Desk References.*

The students were told to study the ads

they selected from each folder. Any references given in the ad were also to be read. In addition, the students were advised to study related ads in medical journals.

Preparation for second session.—In preparation for the second session, invitations were sent about 3 weeks in advance to the detail men representing the companies selected. In almost all cases, 3 weeks' advance notice was adequate. In other areas, it may be advisable to increase this to 4 weeks. The detail men were invited to bring any other representative of their company, and many of them brought district managers, supervisors, etc. In those cases in which no local detail man was known to the staff, the invitation was sent to the main office of the company. In several cases, representatives were then sent from the home office.

The response from the detail men has been excellent. About 80 per cent accepted the invitations, since they felt that it was an advantage to meet the students early in their careers. Also, they believed that they could present a more favorable picture of their firm than mailed ads or letters from the home office. In general, this belief seems to be amply justifiable.

Second session.—At the beginning of the second session, the detail men were introduced to the appropriate student group. For the first 30 minutes, the class was broken up into small groups, each student group discussing with one or two detail men the products which had been selected. There was no faculty auditing of these discussions.

Often both students and detail men asked which aspects of the drug they are supposed to discuss. The students were told to assume they were physicians in practice, contemplating the use of these drugs, and to ask whatever questions they would consider relevant to such a situation. The detail men were advised to treat the students as if they were practicing physicians and to use whatever approach they have found effective in their own experience.

At the end of 30 minutes, or earlier if desired, the students and detail men were asked to terminate their initial discussions and to circulate individually so as to talk to others. This informal small-group discussion continued for about an hour longer. At times, it was necessary for one of the faculty to encourage the circulation of the students and detail men. Also, there were occasions when a large number of students clustered around one detail man, leaving others without an audience. Some of these students were asked to speak to the other detail men first.

For the last 60 to 90 minutes of the session, a general discussion of drug advertising took place. One of the detail men who had volunteered began with a 10-minute explanation of the role of the detail man. Then, the discussion was open. We usually discussed the questions of excessive advertising, official vs. brand name prescriptions, and anything else that came up, with faculty, students, and detail men participating. Often, the discussion became heated, but never acrimonious. The faculty made a point of not referring to a specific company or product by name, in order to avoid premature communication to the students of any of the faculty views. The principles of fair play were adhered to scrupulously. In the third year of the project, after the detail men had participated in the discussion with the first half of the class, a few complained that they had not been given an adequate opportunity to express themselves. Accordingly, when the discussion was held for the second half of the class, the senior officer of the local detail man's association was asked to chair the discussion.

It was presumed that each company had now been given every reasonable opportunity to present its case to the students. These opportunities include the mailed ads, the journal ads, the reply to the students' letters of inquiry, and the personal visits of the detail men. It seemed unlikely that the average physician would go much further in trying to get information from a drug company.

Preparation for third session.—The students now had to evaluate the information given by the company, to determine if it was accurate, reliable, and the whole truth. They

were not expected to cavil at minor exaggerations or "puffery." The key question was whether the information given by the company was reliable enough to allow the student, if he were a physician, to decide how to use the drug safely, properly, and rationally, with adequate knowledge of its weak points, drawbacks, and toxicity. In addition, the students were expected to render a judgment on the general usefulness of the drug in comparison with others of the same type. To help the students make these decisions, a day or two after the second session, each group was given a list of references prepared well in advance by the faculty. This list is deliberately and admittedly one-sided, containing only unfavorable references. It is not useful as a sole source for judging the value of any medication. It is, however, quite helpful for judging the willingness and ability of a pharmaceutical manufacturer to present a fair, truthful, and well-balanced picture of his product. The references are listed first by general drug groupings, and then by specific drugs. The students are expected to read all the pertinent references, ranging from 1 to 20, depending on the drug. Some of the references describe the toxicity or tendency to addiction of the drug; others point out that it is ineffective for many conditions in which it is used; others indicate that the drug may be in effect a fancy placebo. This list of references is a cumulative list which has been prepared over several years. It will be sent to any medical educator requesting it.

The students compared the information given by the company with any unfavorable information on the drug included in the list of references. If the company, through any means, had given the student a fair picture of the drug's unfavorable aspects, the company was ordinarily rated reliable. Earlier, we had attempted to use various gradations of reliability in rating advertising claims. However, this proved to be somewhat confusing and impractical. As some of the students pointed out, if one decides that a firm's ads are unreliable, it is not particularly helpful to decide on the degree of unreliability.

Third session.—During the third and part of the fourth sessions, the students presented their reports to their classmates and to the faculty. Each student in the class first received a mimeographed sheet listing alphabetically all the companies to be discussed. He entered grades and made notes opposite each company name, and kept the sheet as a guide in future dealings with the pharmaceutical industry.

In the reports, one student in each group summarized the findings. First, he discussed the ads for the drugs and the information therein. Next, he related the information given by the detail man and by the company in response to the letter of inquiry. In some cases, he discussed the evidence upon which the company claims were based. Then, he summarized the unfavorable references listed by the faculty and compared them with the information given by the company. Finally, the student gave his opinion of the general worth of the drug, its uses and limitations.

In most cases, the company was judged by comparing the information supplied by it to that in the faculty references.

It should be pointed out that the evaluation of the company was not based on the worth of the drug but on the truthfulness and adequacy of the company's statements. Thus, if a drug was of questionable value, and the manufacturer indicated that it was, the company received a rating of reliable. On the other hand, if a drug had definite therapeutic value and the manufacturer unreasonably overexaggerated its value, the company was evaluated as unreliable. Similarly, if the faculty references included reports of anaphylactic reactions, and the detail man, or any company publication, gave appropriate warning to be on the alert for such reactions, the company was rated reliable even if it did not refer specifically to any of the faculty references.

In a few cases, rating of the company was not dependent in any way on the faculty references. The students, reading the refer-

ences listed by the company in support of its claims, found that they did not in fact present any logical ground for such claims. After a thorough discussion of the claims and the references, the students rated these companies unreliable.

After the presentation by each student, there were often questions and discussion from his classmates. After the student had presented his group's evaluation, the instructor's opinion was given.

The student reports varied in length from 5 to 15 minutes.

Fourth session.—The first 2 hours of the fourth session were devoted to a continuation of the reports from the third session. The last hour was given to a talk by a high-echelon representative of a pharmaceutical company, who had been invited to this session months before. This representative was selected from those firms which in past years had rated as completely reliable. He was invited, because the detail men had stated that some of the points which were raised in the general discussion were outside of their domain. They indicated that only a high-echelon representative was capable of discussing certain questions relating to mailed ads and journal ads.

The faculty did not attempt to circumscribe the guest speaker in any way. He was invited to explain the pharmaceutical industry's viewpoint. His prepared talk took up the reasons for the different advertising approaches, as well as the safeguards used by the industry to assure high standards for their products. He then answered questions from the students. Some of the economic and legal aspects of drug manufacture were discussed. Both students and faculty felt that this session was particularly helpful in giving a balanced view of the problem.

RESULTS

In the evaluation of the advertising claims of the 26 companies, the students rated eleven as reliable.

In most cases, the opinions of the students within the groups (of four or five) were unanimous. In three cases out of 26, there was disagreement within the group, and both majority and minority opinions were presented, with their reasons.

It should be noted again that the evaluations were based on giving the firms every reasonable opportunity to be truthful. It is not implied that in all of the eleven reliable companies, the mailed ads or journal ads taken alone were trustworthy. If criteria of such severity had been applied, the number of reliable firms would have been less. Thus, nothing in this project suggests that mailed ads or journal ads from any company should carry much weight. However, if a physician contemplates using a new drug, it is not unreasonable to suggest that he ask the detail man what sort of toxicity and side-effects may be anticipated, and that he further ask the detail man to have the medical department of the firm send him complete information on the product. If he does this, he may anticipate a truthful, reliable answer from at least eleven firms. This is a very hopeful finding, since these eleven firms account for a substantial portion of all drug sales. In many practices, it is possible to fill most prescriptions with products of these firms.

In a few cases, the students commented that, although a company was trustworthy, the volume and character of its ads were offensive. Since these aspects seemed less important, they did not affect reliability ratings. Presumably, however, the students were somewhat less favorably disposed toward these firms than to those whose presentations were both reliable and in good taste.

The student group evaluating the role of the A.M.A. confined its efforts to the extent to which that organization helps the physician discriminate between drugs. Most students had assumed that the A.M.A. evaluated drug claims and that ads appearing in the *Journal of the A.M.A.* had been investigated and approved. However, the reporting student quoted the policy of the A.M.A., as recently restated (5), that this program had been discontinued, and that inclusion of an ad in the *Journal of the A.M.A.* does not,

directly or indirectly, imply approval. Furthermore, the student stated that the reports of the A.M.A. Council on Drugs are based on information submitted by the manufacturer, since the Council does not investigate any of the drugs. In conclusion, the reporting student advised his classmates that the A.M.A. afforded the physician little significant help in evaluating claims for drugs.

The group evaluating the F.D.A. pointed out the statutory limitations on the authority of that body. The package insert, which the doctor rarely sees in prescription medications, is subject to F.D.A. rules and is a useful guide to the physician. However, mailed and journal advertisements are not within the scope of F.D.A. regulatory powers. It was pointed out that F.D.A. approval of a drug was of little help to the physician trying to evaluate its usefulness and drawbacks. In addition, some discussion developed the point that, because of budgetary limitations, the F.D.A. was severely handicapped in carrying out its statutory functions.

One of the most encouraging results of the project was unexpected. In the process of evaluating the drug advertisements, many of the students reviewed, and presented to the class, the pharmacology of the drug groups involved. In addition to the value of any review, the student presentations demonstrated clearly to their classmates the practical value and importance of pharmacologic principles which heretofore might have seemed somewhat esoteric. The students read and evaluated the references presented by the drug companies to support their advertising claims. In discussing these references before their classmates, they discussed significant and useful statistical procedures, pointing out the statistical significance, or lack of it, in certain papers. Several discussed the experimental design on which some of the reported studies were based.

Special Points

During the course of this project several issues came up which may be of general interest. They will be presented briefly, since other educators may want to know how they were handled. In an earlier paper (9), some of these points were described. It appears appropriate to take this opportunity to record some further aspects of the problem.

The relationship of drug advertising to other advertising.—The detail men pointed out that advertising is an important factor in the American economy and that, without advertising, many people would not know what was on the market. "Why single out drug advertising for criticism?" they asked. In reply, it was pointed out that advertising in general was not being criticized and that we recognized its role in the national economy. However, we disapproved of misleading advertising and excessive advertising. Examples were given of many firms in the United States whose advertising is not only accurate, but also reasonable in quantity.

Drug costs.—Some students raised the issue of the relationship of advertising costs to drug costs. The detail men replied that advertising, by increasing the market, actually lowered drug costs. On the other hand, it was pointed out by the faculty that in certain areas, although advertising might not have affected the price of a particular drug to any great extent, it may have increased the cost of medication to the patient by as much as 500 per cent. For example, there are several synthetic antispasmodics on the market, almost as good as atropine, but costing 4–6 times as much. If, because of advertising pressure, a physician prescribes one of these substitutes instead of atropine in a situation where atropine was preferable, it is reasonable to say that, because of advertising, the cost to the patient of the medication was increased 4–6 times.

Analysis of the advertising mail indicates that at least one ad is received per week for an atropine substitute. However, in 4 years of analyzing these ads, we have not seen a single ad for atropine sulfate or tincture of belladonna. For understandable reasons, the advertising stresses the expensive medica-

tion, even when the cheaper one may be a sounder choice therapeutically.

Research by drug companies.—The detail men referred to the large expenditures of the pharmaceutical industry for research and the useful results obtained. These were fully acknowledged by the faculty, who pointed out that the great achievements in antibiotics almost all resulted from research in the laboratories of pharmaceutical manufacturers. Many other developments of industry research, including tranquillizers, antihistamines, etc., were also discussed. It was emphasized that the advertising evaluation program was just that, and that it did not imply in any way a blanket criticism of the pharmaceutical industry.

Detail men.—Several aspects of the detail men's role have proved a bit unexpected. These men are, in essence, salesmen. Their income is based on the sales of company products in their area. Naturally, they try to increase these sales. As expected, the detail men representing the reliable companies were themselves generally reliable and trustworthy. However, we were pleasantly surprised to find that even those representing the companies which were rated unreliable almost uniformly adhered to high ethical standards. To be sure, they did not give completely truthful answers to the questions about their companies' products. Nevertheless, both the students and faculty received the definite impression that this was not due to any deliberate attempt to mislead or deceive on the part of the detail man. Rather, it seemed to be due to an inadequate knowledge of the drugs he was detailing. In general, it appeared that the detail men regarded themselves as being more than mere salesmen, and considered themselves to be professional assistants or associates of the physician.

Of all the means used by drug companies to communicate with doctors, the detail man appears to be the best from the doctor's standpoint.

Unreliable companies.—We are not able to determine why some companies are reliable and others unreliable. However, it appears that unreliability is not necessarily due to any deliberate attempt on the part of the firm to deceive the doctor. It may be due to poor communications within the company or to inadequate understanding by the advertising agency of the pharmacology of the drug. We have seen several examples of poor coordination within a firm. A student exhibited two brochures sent to him by a drug company in response to his request for further information on one of its products. The first brochure stated that a major advantage of the drug was the absence of any effects on the heart. The second proclaimed that the drug (the same one) was particularly beneficial because of its direct cardiac actions.

Brand names vs. official names.—During the first year of the project, the faculty had urged the students to prescribe by official name only. Nevertheless, a single session with the detail men apparently convinced half the group to use brand name prescriptions. This was reported in the earlier article (9) and apparently raised some questions in the mind of at least one medical educator who was kind enough to write us directly about it. It also disturbed us, and during the second year of the project, we paid more attention to this question. It was clear that the detail men's stories and descriptions of the inadequacies of official name drugs, manufactured by firms unknown to the doctor, convinced many students that brand name prescriptions were preferable. The detail men seemed particularly skillful and well trained in presenting this argument. Private talks with some of them indicated that they were accustomed to using the same arguments with equal success on practicing physicians. It seems probable that, throughout the country, detail men are able to persuade physicians to use brand names by pointing out the "dangers" of drugs made by an unknown manufacturer.

Accordingly, our approach to the problem was modified in the third year of the project. We discussed the need for adequate federal inspection of all drug manufacturers, so that doctors could prescribe by official name with

confidence. At this point, one of the detail men asked why we were against brand names. Brand names, he said, were useful in all areas of commerce. Most people prefer brand name products in every kind of merchandise. Why, then, did we pick on brand names for drugs? In reply, it was pointed out that brand names in the pharmaceutical field were quite different from brand names in most other fields. In areas of commerce other than pharmaceuticals, the brand name usually indicates the manufacturer. Thus, brand names in food include Heinz, Campbells, Dole, Del Monte, Libby's, Quaker, etc. The names of the products are common nouns, i.e., beans, soup, pineapple, peaches, beef stew, oats, etc. In the pharmaceutical field, however, the so-called brand name is really a new name for the product rather than an identification of the manufacturer. Thus, so-called brand name pharmaceuticals include Pacatal, Lotusate, Diamox, Neo-Cortef, etc. None of these names gives much of a clue to the composition of the product or to the source of manufacture. It is doubtful whether these names are true brand names or trademarks in the sense originally intended in federal trademark law. It would, therefore, be more appropriate to refer to them as "private product" names.

To illustrate and dramatize this point, we then borrowed a tactic from the advertising industry. We demonstrated eight cans of baked beans, each from a different manufacturer. The audience was asked to visualize the confusion which would result in the grocery store if drug companies took over the selling of beans. Each manufacturer would advertise his own private name for beans, perhaps some anagram like "Sneab," or "Nabes," or something suggesting a particular use, like "Lo-Cals" or "Hi-pros." Clearly, this would make shopping a most difficult task. The difficulties would, of course, be compounded if 300–500 new private product names were added to the grocery shelves each year.

The students were advised to prescribe medications the way they would ask for a can of beans in a grocery store—by a combination of official name plus *true* brand name, i.e., Heinz beans and Armour thyroid.

One of the detail men commented on the length, complexity, and unpronounceability of official names. He intimated that by providing instead a short, easily pronounced "brand" (private product) name, the drug company was doing the doctor a favor. In reply, it was pointed out that the drug companies themselves were responsible for the choice of official names. Whenever possible, an official name is chosen from a list submitted by the manufacturer. If none of the names submitted is suitable, the A.M.A. may suggest an official name, but official names are not adopted for new drugs without the approval of the manufacturer. Under the present system, it appears to be advantageous to the manufacturer to adopt a simple "brand" (private product) name, such as Kynex, or Flexin, while the official name is complex and difficult to pronounce such as sulfamethoxypyridazine, or zoxazolamine. The reasons for this situation are not clear, and it was not implied that the drug manufacturers are responsible for it, even though it may give them some economic advantage. However, if doctors prescribe properly, by official name, plus company name where desired, the manufacturers will eventually find it uneconomical to continue the present confusing situation.

The whole question of "brand" (private product) names and official names in drugs is much more complex than this summary suggests. Looking into it, it was found that questions about it have been raised by the Assistant U.S. Commissioner of Patents (12). There are legal and legislative aspects which are currently being explored, and which may become the subject of a separate report.

DISCUSSION

When this project was first considered, there was a question as to its place in a basic science course. Accordingly, there was a critical analysis of the content of the pharmacology course, its relationship to clinical studies, and its effect on medical practice.

In theory, physicians are supposed to apply to their practice the pharmacologic principles taught in medical school. However, even a cursory examination of the current prescription practices throughout the nation shows clearly that most physicians are not applying sound pharmacologic principles to medical practice. The misuse and abuse of antibiotics (10) are an outstanding example. If the estimates are even partially correct that only 1–10 per cent of antibiotics prescribed every year are employed on proper clinical indication (7), it seems that the teaching of pharmacology (and clinical subjects) could benefit by some revision. Furthermore, it appeared that a major reason for the failure of many physicians to utilize their pharmacologic training was the influence of repetitive, persistent advertising. Accordingly, it seemed justifiable to devote 11 hours of a crowded schedule to a project which offered some hope of countering those forces which have induced so many doctors to depart from sound prescribing practices.

On the other hand, we have no illusions that this program by itself will correct the current situation. However, it is a beginning. Other programs, at the house staff and postgraduate level, will probably be needed also.

If all this seems to imply too severe a criticism of practicing physicians, it would be well to consider the advertising pressures to which they are subjected. Although some advertising practices are clearly and obviously improper, many are unobjectionable in themselves. However, when taken together, they give a picture of advertising pressure, both direct and subtle, which is so extensive that it is difficult to criticize those who accede to it. The advertising pressures to which the physician is subjected have been described by others (1–4, 8, 10, 11, 14, 15).

There are indications that they are likely to increase, with such developments as "saturation" (13) campaigns and "seeding" techniques expanding.

In evaluating the advertising pressures on the physician, it is important to keep in mind the fact that they are continuous, day by day, for 40 or more years. It is not surprising that so many physicians are confused. Indeed, it is encouraging to find that there is a substantial proportion of doctors who have resisted these pressures, and who prescribe rationally. It is our hope that this project and similar ones will increase their numbers and strengthen their resolve.

On the other hand, it would be overly optimistic to believe that any teaching project restricted to the second year pharmacology course can fully counteract the enormous advertising pressures to which the physician is subjected. Accordingly, we believe that medical educators will find it necessary to devise additional teaching projects and techniques to offset the Madison Avenue influences.

Additional approaches may be needed for fourth-year students, house staff, and practicing physicians. It is encouraging to find that several educators are already starting to develop teaching projects for these groups.

Our teaching materials are available to any medical educator on request. Primarily, they consist of fact sheets and lists of references, coded for easy selection. Revisions are sent out every 6–12 months.

SUMMARY

A teaching project, designed to help future physicians cope with pharmaceutical advertising pressures is described. During the past 3 years, modifications have been made to increase its effectiveness.

The medical students evaluated the reliability of drug advertising claims by comparing the information supplied by the companies to that in references given by the faculty. The students, in reports to their class, assessed the reliability or unreliability of each company. The entire project required 11 hours of classroom time, plus library study. In addition to its basic purpose, the project also proved helpful as a review and application of basic pharmacologic principles.

It is hoped that teaching experiments of this nature will help physicians to handle the enormous pharmaceutical advertising pressures.

Any medical educators wishing to consider similar projects are welcome to copies of our teaching materials.

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History of Continuation Medical Education in the United States since 1930

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Postgraduate (continuation) medical education has made either much or very little progress during the past 20 years—depending upon whether you judge it by sponsorship and practices or by initial advocacy of sound ideas. In regard to the currency of such ideas, as well as objectives, sponsorship, and kinds of activities, the period since 1930 recapitulates the essential history of continuation medical education in the United States. The significance of these developments will be better understood if the period prior to 1930 is reviewed briefly.

Continuation education before 1930 was inextricably intertwined with both specialty training and reparative education. Many practicing physicians were graduates of inadequate medical schools; often these men had not even served in an internship; most had no formal specialty training under anything resembling modern programs. Forty years ago the goal of education beyond medical school was to correct deficiencies of graduates, thus making them safer medical practitioners. Even in specialty training, there were no standards of admission, no definite educational program, and the granting of certificates and diplomas was greatly abused. Many doctors proclaimed themselves specialists after taking only superficial courses (22).

From 1919 to 1934, a list of graduate schools was published annually by the Council on Medical Education and Hospitals. In the first list seven of the eighteen graduate medical schools were connected with universities.

Until well after the development of residency specialty training programs and subsequent recognition of such training by American specialty board certification (a phenomenon that reached its peak in the 1930's) the concept of continuation education as a third stage of medical education did not clearly emerge. It was not until 1927, for example, that the first list of approved residency training programs in hospitals was published by the Council on Medical Education and Hospitals. At that time both unacceptable and questionable medical schools still existed.

The legacy of inadequacies in basic and graduate medical education dominated the scene at least until the mid-1930's. It is an interesting commentary on postgraduate students of that era to note that, of 30 physicians aged 25–59 taking a course in 1929 at Vanderbilt University School of Medicine, only seven had had an internship (44). The fact that this 4-month course for general practitioners was essentially reparative for defective initial education is obvious. Even in 1935, when Dean Thomas Ordway of Albany wrote on the program of Albany Medical College, repair efforts apparently were still a primary need of practitioners. He said, "For instance, one morning in the course of other work, a member of the group told Dr. X that he wished he knew more about recognizing nervous disease with particular reference to the method and the in-

* Dr. Shepherd was Assistant Secretary of the Council on Medical Education and Hospitals, American Medical Association, with his major activity in the field of postgraduate medical education.

terpretation of the neurological examination. . . . It developed that several of the group did not know how to use the ophthalmoscope" (30).

Until the late 1930's Abraham Flexner's 1910 opinion about the postgraduate school could be applied, with isolated exceptions, to the objectives of continuation medical education: "The postgraduate school as developed in the United States is an effort to mend a machine that was predestined to break down. It was originally an undergraduate repair shop. Its instruction was necessarily at once elementary and practical. There was no time to go back to fundamentals. . . . The training offered is calculated to 'teach the trick' or to exhibit an instructor in the act of doing it. The part of the students is mainly passive; they look on at expert diagnosticians or operators. . . . The teaching has the air of handicraft, rather than science" (21).

Postgraduate medical schools had been established outside the university orbit. Before 1920, both the Association of American Medical Colleges and the Council on Medical Education of the American Medical Association stated that graduate and postgraduate schools (until then largely proprietary) offered entirely inadequate facilities. They indicated that the legitimate demand for advanced work should be met and that some medical schools should consider developing graduate departments (22). These recommendations referred particularly to specialty training and graduate education in science. The principle was concurred in by the Association of American Universities in 1920.

Just as the objectives of continuation medical education have been dictated by the needs of students and hence by the stage of development of medical school and specialty training programs, so has the sponsorship of continuation education programs been altered. Sponsorship has gone through three stages: (*a*) the proprietary polyclinic hospital, and graduate and postgraduate school; (*b*) the medical society and state board of health independent of the medical school (although using medical school faculty members to a large extent); and (*c*) the medical school as the responsible sponsor and planner, often in cooperation with a medical society. Although stages of sponsorship have overlapped, World War II marked the major transition from the first to the second stage. Other sponsors have been extension departments of universities and academies of medicine. For programs outside of medical centers—especially itinerant ones—state medical association committees in cooperation with state boards of health played leading roles.

The role of the medical society in continuation education was fostered by the Council on Medical Education and Hospitals. In 1923 it "[called] attention to the increasing opportunities afforded to county, state and district medical societies to organize and operate once or twice each year diagnostic clinics . . . as well as extension courses of lectures and clinics (such as are) under the auspices of the Universities of North Carolina, Pennsylvania, Wisconsin, and Washington University, and by several of the state medical societies and state university medical schools. The Council will be very glad to cooperate with any county, state or district medical society in the securing of clinicians or other instructors when it is desired to organize similar courses or clinics" (27). Eleven years later the Council reiterated this viewpoint of encouraging state medical society courses in answer to a House of Delegates suggestion that the Council investigate assisting state medical societies with such courses. The Council's position may have partly accounted for the energetic activities of various state and county medical societies beginning in the 1920's and reaching a peak in the next decade. Among the effects of World War II was the Council's realization of the role medical educators should play in continuation medical education.

The methods of continuation education generally have reflected the practices in basic medical education—with a time lag. Such a lag would be expected, because until

after World War II most postgraduate programs were designed by practitioners who had received their image of medical education years earlier. Thus, lectures and amphitheater clinics were the usual approach. As Dr. William A. O'Brien indicated in 1947, "In the past all we had were lectures and dry clinics. Patients were brought in and wheeled out; sometimes it was the right patient for the lecture and sometimes it was not. In any event the patient served as a stooge for an act that gave little to the onlookers" (29). Similar exercises, which also could be used away from the medical school, made possible various itinerant programs.

The years 1930 and 1931 marked the beginning of a new epoch—the initiation of regional responsibility by three medical schools: the University of Michigan, Albany Medical College, and Tufts University. The first school was stimulated by a newly organized foundation, the second by a health department, and the third by an endowment.

Dr. Benjamin G. Horning described the W. K. Kellogg Foundation–University of Michigan program in these words: "The University of Michigan Medical School has accepted the principles that graduate and continuing medical education should be decentralized and developed about the regional and community hospitals and that medical education channels should extend from the medical school out through such hospitals to the rural physicians" (23).

Dean Thomas Ordway characterized the Albany Medical College Department of Regional Extension as follows: "The program had in the beginning and still has but two main objectives. The first was to work out a program which would insure better medical service to the people of this region, particularly northeastern New York State. The second was to determine whether a medical school might not legitimately, and without detriment to its primary task of providing sound undergraduate training, engage in aiding all physicians practicing within the sphere of its influence to pursue that lifelong process of education which is the mark of the good physician" (30).

The University of Michigan–Kellogg Foundation program centered around internships and residencies in regional hospitals, with the continuing education of hospital staffs as an indirect, though purposeful, result. Under this plan faculty members periodically visited the regional hospitals, where they held conferences, clinics, and consultations. Interns and residents, who were rotated from those hospitals for a 6-month to 1-year period at the medical school hospital in Ann Arbor, returned to the community hospital equipped to stimulate the attending staff. Another aspect of the program was the training of rural practitioners to act as part-time health officers in communities lacking such personnel.

The Albany Medical College program initially comprised surveys of the needs, a medical school service for placing physicians in communities of upper New York State lacking medical service, periodic visitation of faculty members to regional hospitals, itinerant courses for practitioners in relatively isolated communities, and courses for practicing physicians at the medical school.

The Bingham Associates Program, using first Tufts Medical School and then its expanded New England Medical Center as the core facility, had a broader objective that integrated improvement of regional and community hospital services with an educational program for their staffs. Dr. Samuel Proger, president of Bingham Associates, was convinced that it did little good to teach a physician new methods of diagnosis and therapy if he could not use these on his patients at the community level. Thus, qualified pathologists and radiologists were induced by initial subsidy by Bingham Associates to join the staffs of regional and community hospitals in Maine with the assurance of continuing consultation privileges with the Boston core professional personnel. X-ray films, pathology specimens, and electrocardiograms were sent by community hospitals to the qualified personnel at the regional hospitals and, if unusual, to

the Tufts faculty group. Medical technologists, nurses, dieticians, record room librarians, and administrators were given on-the-spot instruction at the regional and community hospitals in Maine by appropriate personnel from Tufts. Later the program was expanded to include hospitals in western Massachusetts. As Dr. Proger wrote, "In the final analysis the function of a medical school is to influence medical practice favorably. . . . The highest quality of medicine is generally found in medical schools and their hospitals, and often the lowest quality is found in those areas farthest removed from the influence of such centers" (36).

The 1932 report of the Commission on Medical Education (4) (A. Lawrence Lowell, of Harvard, chairman) proposed remarkably modern-sounding ideas relative to continuation education. Some of these ideas are still being considered 27 years later. In part the report stated:

> The education sequence from premedical education to retirement from practice should be looked upon broadly as a single problem, not a succession of isolated and unrelated experiences. . . . A comprehensive program of postgraduate education can be conducted only through the co-operative endeavor of the medical associations, medical schools, and hospitals. . . . The university's program in medicine, including the graduate training in hospitals and in the several phases of postgraduate education should be closely correlated under a unified and flexible program, with full recognition that the methods of instruction should be adapted to the respective needs of medical students, graduate students, and practitioners. . . . The continued education of physicians is synonymous with good medical practice, and provisions should be made ultimately whereby every physician will be able to continue his education if he wishes to do so. The time may come when every physician may be required in the public interest to take continuation courses to insure that his practice will be kept abreast of current methods of diagnosis, treatment, and prevention. . . . The degree to which medicine will occupy its proper place in modern society depends on professional leadership and the extent to which the rank and file of the profession are able to keep abreast of medical knowledge. An undertaking to provide facilities and teaching personnel for the entire profession, or even for those interested enough and able to take advantage of such educational opportunities, is one of the first magnitude. . . . The problems of postgraduate medical education are closely interwoven with those of practice and education. The great need at the moment is to secure joint leadership in a program which will embody the educational ideals and methods of the university and the highest type of medical practice.

The Commission's report contained one of the earliest, if not the first, proposal that compulsion might have to be used to enforce the continuing education of all physicians. In this connection it is of interest that the By-Laws of the American Board of Urology, when it was formed September 24, 1934, contained a section headed "Revocation of Certificate" which read as follows: "Certificates issued by this Board are subject to the provisions of the Articles of Incorporation and the By-Laws. According to Article IX, Section 4, of the By-Laws, each certificate shall be subject to revocation in the event that: . . . (*e*) The physician so certified shall at any time have neglected to maintain the degree of competency in the practice of the specialty of urology as set up by the board, and shall refuse to submit to reexamination by the board" (5). It is not known, however, whether the foregoing section has ever been invoked. The idea of reexamination of physicians has been advocated by various persons in the intervening years.

In 1933 the Massachusetts Medical Society established a Commission on Postgraduate Instruction to unite in coordinated effort the medical schools, hospitals, societies, and health departments. This Commission was a forerunner of the Postgraduate Medical Institute established in 1952.

A unique postgraduate course that began in 1929 and continued 5 years was reported in 1935 by Dr. John B. Youmans, then Director of Postgraduate Instruction at the Vanderbilt University School of Medicine. What distinguished it was the attempt at follow-up evaluation that anticipated by

more than 20 years the method of the Osler L. Peterson study. Each course, for ten general practitioners in rural and small town practice, consisted of 4-month fellowships financed by the Commonwealth Fund. Each semi-annual course was divided into 5 periods, with the first 4 weeks devoted to physical diagnosis and clinical laboratory methods, followed by 3-week periods in clinical medicine, pediatrics, obstetrics, and surgery. In addition, there were periods devoted to preventive and public health medicine as related to the general practitioner. As Dr. Youmans reported, "In a general way, the course resembles the usual undergraduate course in miniature, the first period corresponding to the two preclinical years and the four subsequent periods to the clinical years" (44). The objective of the course was essentially reparative.

Thirty general practitioners who had been enrolled in one of the first five courses were visited in their offices without notice and graded in comparison with an ideal high standard of practice. On the basis of an initial questionnaire and the instructors' intimate knowledge of them during the first 4 weeks they were also graded on their practices before taking the course. Although before the course only four of the 30 reached or surpassed a 75 per cent level of the ideal standard, eleven reached such a level after the course. Improvement in grades of practice ranged from 6 to 126 per cent, with an average of 17 per cent.

Dr. Youmans concluded, "The first is the decided superiority of practical over didactic teaching. It was very apparent that the work which dealt with patients in wards and in the outpatient department or with various technical procedures of diagnosis and treatment was the most valuable part of the teaching. . . . It should not be inferred that didactic teaching has no place. It has definite value but its use should be restricted to an amount necessary to correlate properly, guide and develop the subject as provided in practical exercises" (44). . . . Only seven of the 30 physicians involved had had an internship after completing medical school two to 30 years previously.

Dr. Leroy E. Parkins of Harvard offered in 1935 (31) several recommendations as well as a prediction that is being fulfilled. "Resident courses in postgraduate instruction should be made available at less expense, and an adequate salary should be paid the faculty. Postgraduate medical instruction should be removed from the proprietary field and endowed, as are the undergraduate years and other departments of higher education. It is apparent that the rapid development of wide interest in extension postgraduate instruction in the past 16 years means that the medical schools should look ahead and anticipate a greater interest in resident postgraduate courses in the near future." Only the intervention of World War II delayed the trend Dr. Parkins foresaw.

By 1934, all but eight of the 38 approved graduate schools of medicine were related to university medical schools. The intent of the earlier recommendations of the Association of American Medical Colleges and the Council on Medical Education had been largely realized. The year 1934 was the last time that graduate schools were listed as approved by the Council on Medical Education and Hospitals. Recognized residency specialty training programs in hospitals had been developed successfully in a variety of fields, thus fulfilling the role that graduate schools originally had been created to serve, in addition to providing didactic and observation courses for the continuation education of physicians in practice.

The educational programs initiated by Albany Medical College, the University of Michigan, Bingham Associates, Vanderbilt University and several other schools in the early 1930's, as well as the modern ideas advocated, were exceptions rather than the rule in terms of the total continuation education activity, which was largely under the control of medical societies.

The Continuation Study Center at the University of Minnesota was constructed in 1936—the first such facility. As well as providing living accommodations for students,

it was designed to serve as a focal point for intramural continuation education or fall divisions of the University, including the medical school.

In his inauguration speech in 1937, A.M.A. President J. H. J. Upham spoke on the need for and objectives of postgraduate medical education. He suggested four main procedures by which postgraduate self-education is attainable: personal experience in clinical observation, training in schools, perusal of medical publications, and attending medical society meetings. He noted that in years past "Programs of postgraduate study were organized for the use of county societies with weekly outlines published in *The Journal* (of the American Medical Association). Some good resulted, but in general this scheme failed because of the lack of leadership and trained individuals in the various areas to oversee and carry out the courses" (40). Then Dr. Upham noted, "There is already a trend toward compulsory evidence of postgraduate improvement. . . . In several states there are laws requiring annual registration of physicians. . . . There is the possibility that the next step might be requirement for renewal of licensure through evidence of familiarity with the developments in medicine by five or ten year periodic examinations." He mentioned that the scientific programs in all meetings could be improved and made more attractive to a larger number. He added, "In this the American Medical Association may assume a scheme of leadership and guidance that will demonstrate that it has a definite plan of medical education not only for the undergraduate and the intern but also for all its members throughout their entire period of medical life expectancy. The result will be a better profession, a more united front with better service to the public and a greater progress of medical science" (40).

This is at least the second mention of a compulsory component in continuation education and perhaps the first suggestion of using licensure as the compulsion.

In this era and for some time to come, not only were specialty training and continuation education considered together, but the differences in objectives and educational values of meetings and formal courses of various kinds were not recognized.

In the first stage of the Council's 1937–1940 state-by-state study (22) on educational opportunities in continuation medical education, under the direction of Dr. Hamilton Anderson, there was a description of the forerunner of the present postgraduate traineeship, of which more than 100 in more than 65 hospitals are known to exist in 1959. The 1938 report stated, "A significant development of residency facilities for practicing physicians, patterned similar to the plans which have operated continuously in Buffalo and Brooklyn since 1921 and 1922, is evident throughout the country. One-, 2-week or longer periods of bedside instruction of limited groups with provision in medical schools and in hospitals for board and/or lodging and intimate instructor-graduate student relationships characterize these short term residencies" (5).

The 1938 report, based on Dr. Anderson's visitation of 23 states, noted that medical societies and academies of medicine apparently had greater interest in and had assumed greater responsibility for continuing the training of physicians than all other agencies in the field. At that time, 21 of 24 states had one or more committees of state medical associations devoted to medical education; in 20 states the committee chairmen actively directed all or some of the graduate courses in their states. Almost all the programs had the cooperation of component medical societies, medical schools, boards of health, academies of medicine, and various medical and health agencies. In 46 of the 90 programs, didactic methods were mainly used. In 20 cities there was small group instruction with bedside training courses. Seventeen medical schools provided the equivalent of short-term residencies (4).

This first nation-wide study of continuation medical education, which had appeared

in installments in *The Journal of the American Medical Association*, was published in book form in 1940 (22). Following this report, the Council began to publish periodic listings of postgraduate courses, at first quarterly, then every four months, every 6 months, and eventually once a year.

The American College of Physicians began its course program in 1938 when its Committee on Postgraduate Education arranged to provide for 2 weeks of instruction immediately preceding the annual session of the College in April. At first this was in conjunction with medical schools—the latter planning and implementing the educational program while the College of Physicians handled financing, advertising, printing, and registration. Initially the cooperation of Harvard, Columbia, and the University of Pennsylvania Graduate School of Medicine was secured. Similar courses were provided in the 2 weeks before the 1939 annual session of the American College of Physicians. Two courses were given at Johns Hopkins, one at Northwestern, and two at Washington University. Its continuing dependence on the faculties of medical schools for educational planning differentiated between the American College of Physicians' courses and those of other specialty societies that had instituted annual or regional postgraduate courses for their members much earlier. Such societies included the Academy of Ophthalmology and Otolaryngology (1921), the American College of Surgeons (1928), and the American Academy of Orthopedic Surgeons (1933).

In 1939, there were 109 "opportunities for practicing physicians to engage in continuation study" in 43 states and the District of Columbia; 59 courses were given in medical centers that "provided facilities where clinical instruction might be featured" for 5 or more days, and 50 courses were in 36 states itinerant. Of the 59 courses in medical centers in 23 states and D.C., 43 were sponsored by medical schools (if two graduate schools of medicine are included), seventeen by medical and clinical societies, five by departments of health, three by hospitals, three by the Commonwealth Fund and Bingham Associates, and two by university extension departments. Of the 50 itinerant courses, 43 were sponsored singly or jointly by state medical societies, 30 by state boards of health, seven by extension divisions of universities, and seven by medical schools. None of the itinerant courses was directed by a medical school, although three were directed by extension divisions of universities (6).

The Commission on Graduate Medical Education headed by Dr. Willard C. Rappleye, in 1940 published a report (3) which contained sound ideas that are still being reiterated and that might have been studied and implemented more rapidly had not World War II intervened. The following passages illustrate its value: "The relatively small number of physicians taking postgraduate courses each year seems to indicate that undergraduate medical education, at least as it was conducted in the past, has not developed a strong enough desire for continued education to overcome the obstacles in a busy practitioner's life. This (low) percentage also shows a need for some additional stimulus to cause a much larger number of practitioners to take appropriate postgraduate course work. The reason more physicians are not taking such work may be that there is a lack of postgraduate opportunities or that the content of available courses does not appeal to the practitioners as being well adapted to their requirements. . . . In the development (of this field) there should be a clear appreciation of the fact that postgraduate medical education is a part of the whole field of medicine and therefore should be more closely integrated with undergraduate and graduate medical education. This unification of program requires far-sighted planning by medical educators so that the physician may have appropriate educational opportunities from the time he enters medical school until he retires from active practice. . . . Too often in the past, postgraduate instruction has been given solely by didactic lectures. Demonstrations and conference teaching were not feasible

because of the large size of the audience, the lack of suitable physical facilities or the absence of clinical material. While didactic lectures are valuable, demonstrations, first-hand experiences under guidance, and conferences are the most successful forms of teaching. Any well-conceived program should stress these methods. In medical school, the tendency today is to reduce the number of formal lectures. In postgraduate education, this is even more desirable. . . . Another promising type of opportunity that could be further developed is the short residency. Under this plan the practicing specialist comes to the hospital in the capacity of a resident to bring himself up to date in his specialty. . . . The time is now ripe for the development of broad standards of educational content of postgraduate work, standards that will emphasize objectives and stimulate higher achievement without inhibiting widespread experimentation with means and methods. . . . To make this postgraduate work most effective and of good educational content, it should be considered as a continuation of undergraduate and graduate medical education" (3).

Before those thoughtful recommendations could have made much of an impact, World War II began. Medical schools cancelled several courses and reported that, because of unsettled wartime conditions and the institution of accelerated programs of undergraduate medical education and because of faculties depleted by the military services, it would be difficult for them to plan any activity other than undergraduate instruction in the immediate future (7). An initial effect of the war during the year 1941–1942 was a drop in enrollments in itinerant or remote courses offered to physicians near their home communities, and in graduate assemblies, while in centers providing ample clinical facilities enrollment exceeded the previous year by 2331 (7).

The years 1942–1945 marked the end of one era and the beginning of another in many aspects of living; not the least affected was medical education. Simultaneously many medical school faculties became dissatisfied with the defects in undergraduate medical education that had been spotlighted by the rigors of the accelerated programs, and physicians in the armed services became dissatisfied with their own lack of graduate medical education when they saw the tangible benefits of board certification. Also, physicians, when nearing the completion of their military service and awaiting discharge into civilian status, recognized their limited medical experience and their lack of clinical experience because of administrative assignments; hence the attention of the profession was turned to the need for "refresher" courses. This was a turning back of the clock to the reparative aspects of postgraduate medical education, but it was desperately needed.

As early as 1942, in anticipation of a foreseen need, the House of Delegates of the American Medical Association requested the Council on Medical Education and Hospitals to "Develop a program of refresher courses for physicians returning to civilian practice after the war. In arranging such a program, consideration should be given to cooperation with medical schools, approved hospitals and medical societies" (32). Preliminary survey of the needs of returning veteran physicians and opportunities for them was begun. The Council report to the House of Delegates in 1944 stated, "Refresher and review courses, postgraduate lectures and clinic series, and internships and residencies are being developed in many fields which give fair promise of meeting the probable demand from returning officers as well as from the more recent graduates who will not have been on active duty" (33).

On February 12, 1944, the Executive Council of the Association of American Medical Colleges recommended "that each member (school) of the Association endeavor to formulate a program for postwar graduate and postgraduate medical education in affiliation with hospitals in its area which can provide satisfactory advanced clinical training" (28).

In an effort to ascertain the potential

postwar educational load of physicians returning from military service, a committee on which the Council on Medical Education and Hospitals participated conducted a survey of the opinions and wishes of a large sample of the physicians in the Army, Navy, and United States Public Health Service. A study of the responses from 21,029 medical officers revealed the following (26).:

1. Nearly 60 per cent (12,534) wanted to take long courses (6 months or more).
2. About one-fifth of the group (4563) indicated a need to take short courses (less than 6 months).
3. Nearly 19 per cent (3922) wanted no further training.
4. About 63 per cent (13,333) expressed a desire to become certified specialists. Nearly 16 per cent of the entire group were already certified specialists.
5. Nearly 40 per cent (8734) came from private practice to military service, 22 per cent (4640) from internships, and nearly 10 per cent (2191) from residencies.

The Council made a careful study of all statistics compiled from returned questionnaires and surveyed the available facilities as well as projected estimates of need for expansion. Medical schools and hospitals were asked to study their individual programs and estimate the number of additional house officers they could accommodate in clinical fields for which they already had approval, as well as in undeveloped areas. All organizations—medical schools, hospitals, and medical societies—were urged to plan review and refresher courses of 2–6 months' duration, in anticipation of possible demands. In all of its recommendations the Council maintained that basic science should be emphasized and that high minimum standards should prevail. The Council published lists of both graduate and postgraduate programs available.

The task of preparing for and meeting the demands of returning veterans was a major undertaking for all institutions and organizations concerned. Medical schools, already strained by slender faculties and continuous basic medical education programs, were aware both of the needs of the profession and of the added financial burden that meeting such needs would impose. It is to their credit that much was accomplished.

Eighteen medical schools became beneficiaries of W. K. Kellogg Foundation funds for experimental programs in the area of continuing medical education. Long before the war was over, the Foundation was studying its possible role in a broader approach to continuing medical education, involving encouragement of and initial subsidy for medical school regional educational efforts in relation to the profession in practice.

By 1946, the Council on Medical Education and Hospitals had changed its ideas from those of 12 years previously when it had stated that postgraduate medical education was a responsibility primarily for medical societies. In its report to the 95th Annual Session of the A.M.A. House of Delegates, the Council stated, "More important than mere numbers of courses is the fact that more of these courses are of longer duration, more are being offered by universities and medical schools and the geographic distribution is more extensive." Again in the following year, the Council noted the importance of an increasing number of postgraduate courses being offered by medical schools. The list of postgraduate courses for the first 6 months of 1946 was about 30 per cent longer than that for the preceding 6-month period. Forty-seven medical schools gave 491 courses, almost 90 per cent of the total listed; many of these were full-time (8).

The year 1947 was notable for two conferences that brought together many leaders in postgraduate medical education, and the organization of the American Academy of General Practice with a constitutional requirement that each member must have at least 50 hours of formal postgraduate education (called category I) every 3 years as well as 100 hours of informal education (meetings, etc., called category II) in order to maintain membership. Such require-

ments set a new precedent for medical society membership.

The remarks of Dr. William A. O'Brien at the New York Academy of Medicine Institute on Medical Education epitomized a post-war trend: "There is a tendency all over the country for medical societies to drop scientific programs and spend most of their time on medico-economic affairs. Inasmuch as we have so many other sources of information concerning scientific programs, maybe this is a better purpose for the medical society to serve" (29). Dr. F. W. Jackson during the Institute challenged in the most direct terms yet used the wisdom of indefinite licensure, "A license for such an important thing as the care of the physician and mental well-being of humanity should not remain valid for an unlimited length of time without some periodic re-evaluation of the individual who holds the license to make sure that he is providing a satisfactory type of service" (24).

Continuation education was the godfather of the journal *Postgraduate Medicine* which first appeared in January, 1947, as a monthly publication by the Interstate Postgraduate Medical Association of North America. Although initially much of the basic material consisted of addresses from the annual meeting of the Association, it was planned that new material originating from postgraduate courses would be printed (9).

In 1947–1948 was concluded a merger of the New York Post-Graduate Medical School (which had been independent since 1882 although quasi-affiliated with Columbia University College of Physicians and Surgeons since 1932), with New York University College of Medicine. The College of Medicine had decided that it needed a university hospital. Upon the recommendation of the Hospital Council of Greater New York, whose opinion the College had sought, and because the College already had an active interest in postgraduate medical education, the merger of the Postgraduate Hospital and Medical School was accomplished. Despite two separate organizations—for the Post-Graduate Medical School retained a certain autonomy—the College of Medicine subsequently had no separate faculty or departments in the clinical sub-specialties but utilized the Post-Graduate Medical School for teaching in those areas. The latter had no basic science departments but depended upon the College of Medicine for education in those disciplines. A strong program was developed that had an international scope in post-doctoral medical education under four categories: (*a*) part-time continuation courses, (*b*) formal graduate courses, (*c*) a regional hospital program, and (*d*) a basic sciences program. Particularly the latter two aspects were enhanced by Kellogg Foundation grants.

This merger left only three major non-medical-school-affiliated graduate or post-graduate institutions offering courses to physicians: New York Polyclinic Hospital, Cook County Graduate School of Medicine, and Los Angeles Graduate School of Medicine. Actually, the Graduate School of Medicine of the University of Pennsylvania functioned with only passing relationship to the University's School of Medicine.

A new method of communication little known to most of America—since the country had not yet been spanned by coaxial cables and microwave relay stations—came to the attention of the medical profession in 1948 at the Annual Session of the American Medical Association in Atlantic City when closed-circuit color television was introduced into the scientific assembly. Video and sound from an operating room in the Atlantic City Hospital were brought to thousands of registrants at the meeting in the Auditorium on the small picture tubes and loud-speakers of special television receivers. The sheer novelty and excitement of being able to witness a close-up, fairly accurately colored image of a surgical procedure then in progress created an undeniable impact and evoked discussions in which the term "immediacy" epitomized the contribution of television as contrasted with motion pictures.

With the installation of closed-circuit television systems in two medical schools, in 1948–1949, first black-and-white and then color television became medical education's newest toy. Both the University of Kansas and the University of Chicago, followed closely by the University of Pennsylvania, experimented with it initially in relation to basic medical education and postgraduate medical education. It has since been used for physicians' education in open-broadcasts as well as closed circuit conferences. The ultimate role that it will play is still under study and discussion. Although some regard it as a teacher, substituting one teacher for many, those in higher education generally regard it as an important new magnifying glass and another method of communication whose best use remains to be demonstrated.

The Kansas Rural Health Plan, proposed in 1948, listed as one of its three basic propositions the importance of having the only medical school in the state provide continuing education for practitioners in order to maintain their competence and prevent their professional isolation despite rural practice. Major factors apparently preventing young physicians from practicing outside of metropolitan centers were a lack of suitable professional facilities, the limitations of many smaller towns as places to live and raise families, as well as the physicians' anxiety that the polish of an initial good education would dull from a lack of suitable intellectual refurbishing more easily acquired in metropolitan areas. Thus, the Plan called for united action by both rural communities and the medical school. Implementation of these proposals by appropriations from the state legislature to the medical school for expanding the physical plant, facilities, faculty, and budget attracted additional money from a foundation and private sources. These funds made possible a program of continuing medical education by the medical school in cooperation with the state medical society that subsequently placed the University of Kansas School of Medicine postgraduate program on a par with its programs of basic and graduate medical education. Notable features of the program were a willingness to try innovations and, eventually, to make and publish studies of its physician-students in an attempt to gather data useful for future planning (19, 20).

One country-wide survey of medical schools had been made in 1935–1937 by representatives of the Council on Medical Education and Hospitals of the American Medical Association in liaison with the Association of American Medical Colleges. The last general survey of graduate and postgraduate educational opportunities exclusive of internship and residency training had been made by the Council in 1937–1940. Although lists of educational opportunities and the number of registrants attracted had been published by the Council, no general survey of the medical schools had been attempted since World War II. In 1948, the House of Delegates of the American Medical Association approved a survey of medical education sponsored by the Council on Medical Education and Hospitals and the Association of American Medical Colleges. A committee was appointed for the survey with a full-time director and other needed personnel. One of the fourteen major aspects of medical schools' activities included in the survey was postgraduate medical education. The W. K. Kellogg Foundation made a grant of $75,000 to assist the Committee in its study of graduate and postgraduate medical education.

Relative to postgraduate courses, the Deitrick-Berson recommendations (18) emphasized that such courses should take place in medical schools or medical centers. Three of the other recommendations follow:

2. Courses should be designed so that students actively participate and so that their accomplishments and understanding of the courses may be evaluated.

3. Medical school faculties should be increased to meet the present demands of postgraduate education.

4. Costs of postgraduate education should be determined. At present it is impossible to know to what extent tuition charges, contributions of

medical societies and foundations, or other sources of income meet these costs.

The Committee noted and repeated the warning voiced by the Commission on Graduate Medical Education in 1940 (3) against the dilution of undergraduate teaching, and recommended additional faculty for postgraduate teaching to avoid weakening the program for medical students.

The schools and other agencies active in offering postgraduate courses had their peak load of physician-students in 1947–1948 and maintained this plateau for 2 years. During this period applicants to medical schools also reached an all-time high—both in numbers and in relation to places in entering classes. The effects of veterans' pent-up demand for education and their generous Federal subsidy was felt at all levels of medical education. Table 1 (11) portrays the comparative figures collected annually by the Council on Medical Education and Hospitals. The figures for attendance should be interpreted as registrations, since registration in several courses by one physician is not unusual. Further, the totals included registrations at meetings that were called graduate assemblies and clinical conferences.

In 1949 the Committee on Postgraduate Instruction of the California Medical Association began a series of postgraduate courses throughout the state given by faculty members of the medical schools in California under the direction of a part-time medical director for the courses. The program, which provided for 2–3-day sessions in cities in the center of a seven to eight-county territory has been expanded since (10).

The Indiana State Medical Association undertook an experiment in postgraduate education in 1951 by distributing monthly programs by private telephone line from one central meeting to 92 county society meetings throughout the state. Each county society arranged for a private line to its meeting place and a public address system. Listeners were furnished with brochures containing short biographies of the speakers, an outline of each address, and suitable visual aids (11). A similar program was arranged for 55 county societies in February, 1952, by the Special Committee on Postgraduate Work of the Texas Medical Association. These efforts were discontinued after a trial period.

In 1951–1952, Dr. William F. Norwood surveyed for the Kellogg Foundation the programs of postdoctoral medical education in eighteen medical schools that had been recipients of post-World War I grants for developing and strengthening programs. The study combined questionnaires and personal visitation to the institutions involved. Its objectives were to check the effectiveness of the over-all program of grants in this field, to secure an estimate of the performance of each participating school, and to use such evaluations in planning future activities of the W. K. Kellogg Foundation. The major interest of the Foundation was in encouraging long-range postgraduate programs for physicians in regional areas, with a major emphasis on decentralization but with no attempt to dictate such a policy to the institutional recipients.

Dr. Norwood noted that nearly every school had a formally appointed postgraduate committee or its equivalent, with a director or assistant dean or chairman of the committee in the faculty as the responsible individual. Dr. Norwood concluded that such an individual seemed to function most effectively when he was directly responsible to the dean of the school of medicine, although there was no single pattern of postdoctoral education administration that was universally applicable.

Most of the eighteen medical schools regarded state and local societies as appropriately cast in the supporting role of postgraduate activities administered by the medical schools. In this regard, Norwood stated, "It is very apparent that the programs considered by this study have been a most important factor in bringing about a rapprochement between schools and organized medicine or outside agencies" (28). Attitudes collected by questionnaires and

TABLE 1

POSTGRADUATE COURSES OFFERED AND ATTENDANCE, 1945–1951

	Less than 5 days' duration			5 or more days			Clinical conferences, graduate assemblies, study and circuit courses			Total		
		No. reporting			No. reporting			No. reporting			No. reporting	
	Total courses	Attendance	Attendance	Total courses	Reporting attendance	Attendance	Total courses	Attendance	Attendance	Total courses	Reporting attendance	Attendance
1945–1946	154	128	4,140	1,070	1,043	19,991	52	52	21,824	1,276	1,223	45,955
1946–1947	239	205	16,274	1,291	1,137	23,062	21	21	20,475	1,551	1,363	59,811
1947–1948	496	478	31,569	1,279	1,183	24,878	25	25	26,356	1,800	1,686	82,803
1948–1949	304	262	16,821	1,074	984	28,507	67	67	38,058	1,445	1,313	83,386
1949–1950	161	161	10,523	1,080	1,080	24,087	129	129	40,708	1,370	1,370	75,318
1950–1951	420	420	7,438	1,067	1,047	23,454	79	74	23,855	1,566	1,541	54,747
Total	1,774	1,654	86,765	6,861	6,474	143,979	373	368	171,276	9,008	8,496	402,020

personal interviews indicated that faculties supported graduate programs more heartily than they supported postgraduate programs. Norwood also found what others had discovered—that the clinician with a good working knowledge of basic sciences as applied to his specialty is more successful in presenting an integrated curriculum for continuation education than is a basic science teacher. Unfortunately, he noted a dearth of such clinicians in the school faculties.

Certain educational trends related to continuation education were pointed out in Norwood's study. These included adaptation of the clinical clerkship to the postgraduate level, broader use of seminars and conferences, increasing use of audio-visual aids, adaptation of electronic devices for teaching purposes, use of well planned syllabi in postgraduate courses, and adaptation to classroom use of modern "quiz," "audience participation" and "stump the experts" types of activities. He found that all instructional programs benefited from increased personnel, reorganized departments, and the stimulation of new instructional duties, especially postgraduate. The returning veterans, who constituted the bulk of the students in the years 1945–1951 that the study encompassed, showed more than ordinary interest in teaching devices such as medical libraries and instructional syllabi with bibliographies, presumably because of their long separation from adequate medical libraries.

An important point that doubtless arises from the historical overlap in sponsorship transition—i.e., from primarily medical society to primarily medical school—was noted by Norwood: "In certain geographical areas where several schools and professional societies are actively engaged in promoting postgraduate education, definite problems arise from lack of coordination, duplication of efforts, overlapping of interest, conflicting schedules, etc." (28). Thus it appears that, although postgraduate medical education has been an avenue for strengthening the understanding and support of all medi-

cal school activities by the organized medical profession, it has been also a source of irritation.

In 1953 the University of Utah School of Medicine tried the daring idea of using broadcast television for educating physicians of the area (42). Although closed-circuit television under medical school and commercial auspices had been used repeatedly in continuation education, open broadcasts primarily for physicians' education had not previously been attempted. Although it had been considered, the problem of nonphysician audience reaction had restrained them.

In the spring of 1952, the Council on Medical Education and Hospitals had appointed an additional member to its staff, Dr. Douglas D. Vollan, who was to concentrate on postgraduate medical education.

Dr. Vollan spent 10 months in the field observing postgraduate education throughout the country, attending about 50 courses, and interviewing almost 500 individuals in more than 200 institutions and organizations offering postgraduate opportunities. This information was supplemented by questionnaires received from 159 institutions and organizations, as well as material from postgraduate course questionnaires received annually for the lists published by the Council. Part of the study (41) was an opinion survey based on 4,923 questionnaires (of 18,000 sent out) returned by practicing physicians (6). More specialists and fewer general practitioners replied than was representative of the physician population throughout the country.

It is interesting that the order of preference for various kinds of continuation education indicated by the physician replies were as follows: medical reading, postgraduate course attendance, professional contacts, hospital meetings, and medical society meetings (41).

The reasons given by physicians for not attending postgraduate courses included the lack of someone to care for the physician's patients while he was away, the cost—including loss of income from practice while attending courses—and the multiplicity of hospital and medical society meetings. On the basis of subsequent studies (17, 20) of what physicians do as compared with the reasons for non-attendance they gave in the Vollan study, apparently the first and possibly the second reason cited above are more often excuses than operative reasons—at least for physicians in certain areas.

Vollan noted a tendency for a little high-quality postgraduate education to stimulate interest for more. He suggested that by concentrating efforts on carefully planned programs for young graduates, it may be possible to cultivate in them the habit of returning for additional postgraduate study year after year, although it is paradoxical that the group of young practitioners may be least able to afford the financial sacrifices involved.

In relation to the courses themselves, the Council study reported a tendency for those of long standing to develop along a "master design" for coverage of all basic areas of medicine every 4 or 5 years.

The importance of using methods other than the lecture to reach large audiences was emphasized in this study as it had been in previous studies. "The small group-discussion or seminar, though employed only occasionally in postgraduate medical education, was ranked highest by physicians as a postgraduate learning method. Individual supervised clinical casework, lectures, panels, and demonstrations were considered next most effective. The present disproportionate prevalence of didactic methods in postgraduate education points to the need for a reversal of present policy to increase the use of participative methods" (41).

Courses at medical schools and centers, which comprised the majority of postgraduate opportunities exclusive of meetings, were generally considered superior to the extramural or itinerant type because of convenient access to faculty, facilities, and clinical material.

The indicated need of ascertaining these costs reiterated the Deitrick-Berson survey recommendation. Vollan noted that in-

come for postgraduate courses in the country as a whole was derived in roughly equal proportions from the sponsors' own funds, from contributing agencies, and from student fees.

On February 5, 1955, during the 51st Annual Congress on Medical Education and Licensure a half-day session was devoted to a review and discussion of television in postgraduate medical education (12).

In order to explore thoroughly the problems of continuing medical education and useful approaches to their solution, in 1956 the Council on Medical Education and Hospitals decided that it should have the continuing advice of leaders in the profession having a diversity of backgrounds and viewpoints on medical education and practice. The *ad hoc* Advisory Committee on Postgraduate Medical Education began its still uncompleted task in April, 1956.

The committee adopted an agenda for the following long-range and comprehensive working program that the Council on Medical Education and Hospitals endorsed:

I. Ascertain the ideal objectives of postgraduate medical education programs.

II. Implement these by devising criteria or standards compatible with the above objectives for acceptable educational programs.

III. Develop and request the Council to publish a guide or guides setting forth and explaining the objectives and criteria of acceptable programs, and distribute such guides to all institutions and organizations known to be concerned.

IV. Devise methods for evaluating courses and other programs and request the Council to implement such an appraisal program nationally.

V. On the basis of the foregoing, publish in the *Journal of the American Medical Association* only courses and programs meeting the criteria of acceptable programs instead of the present unselective listing.

VI. Devise suitable reward and/or compulsion to stimulate regular participation by all physicians in postgraduate medical education programs. Insofar as any consideration of compulsion is concerned, this necessarily must follow the establishment of a sufficient number of suitable educational opportunities.

In June, 1957, the Council submitted the guide for approval to the House of Delegates of the American Medical Association. It was expected that, as experience was accumulated, the document would be revised and perfected. The statements submitted were purposely of a general nature in order that the published document might encourage thoughtful educational innovations and permit flexible interpretation rather than restrict experimentation. The next month, *A Guide Regarding Objectives and Basic Principles of Postgraduate Medical Education Programs* (15) was published and sent to almost 2000 institutions and organizations including all medical schools and hospitals having approved internship or residency programs. To date requests for additional copies for members of faculties and staffs have boosted its circulation to almost 5000.

By the academic year 1955–1956, 63 of the 85 approved or developing medical schools were engaged to some degree in postgraduate medical education programs (16). These programs varied from one school offering one course a year, with a total enrollment of 36 physicians, to another school offering 22 intramural courses, traineeships in many departments, monthly visitation of twelve circuit course centers, and other educational activities with over 2,000 physicians enrolled a year. In response to a request by the Council on Medical Education and Hospitals regarding each medical school's sense of responsibility toward continuing medical education for physicians, most medical school deans indicated that their educational efforts should include such programs. On the basis of such statements and the activities reported, it appeared that 72 medical school faculties felt some responsibility in this field of education. Of these, 40 schools' questionnaires indicated that postgraduate medical education was or should be one of the major parts of their education activities along with basic and graduate phases of medical education. A significant number expressed the need for additional funds that would permit them to ex-

pand their postgraduate program activities by adding faculty personnel and facilities. Of the 63 medical schools then having at least one annual program, 52 had a faculty member other than the dean who was in charge of postgraduate program planning and coordination. Such a director or assistant dean almost always had other academic or administrative responsibilities. Eighteen of the 54 medical schools answering a question about regional or community hospital affiliation reported some kind of educational affiliation of postgraduate significance. Each of seven of these had such affiliations with more than ten community hospitals (13).

In 1956, Albany Medical College, under the initiative and active direction of Dr. Frank M. Woolsey, Jr., associate dean and director of postgraduate medical education, initiated a new method in postgraduate medical education by using a two-way radio system between community hospitals and the medical school. This project was financed by an initial grant of $4,000 and a later grant of $90,000 from the Rockefeller Foundation. The experiment, which has been expanded and is continuing, consists of conferences from the medical school broadcast simultaneously during the noon-hour to seven or eight hospitals in eastern New York and western Massachusetts. Questions from the assembled staffs are relayed back to the medical school by transmitting stations in each hospital. The conferences are given 3 days a week, each day for a different network of hospitals; thus 21 hospitals a week are reached. At each hospital there is a physician who acts as a local moderator. In summarizing his report (43) Dr. Woolsey stated that two-way radio conferences which are an effective means of obtaining participation in post-graduate medical presentations without undue expense, save travel time for both faculty members and physician-students. He envisioned the possibility of a radio broadcast using the faculties of several medical colleges.

Experimental tape-recorded abstracts of medical literature, initiated in California in March, 1953, were placed on a regular biweekly basis January 15, 1954. As Audio-Digest, this project is now operated by the California Medical Association.

During the year 1956–57 the Council on Medical Education and Hospitals made a total effort to accumulate information about all formal postgraduate courses in the United States—their subjects, enrollments, home location of physicians enrolling, methods, sponsors, and locations. The first of two reports on this study (16, 17) presented the analysis of 33,945 enrollments in 1,054 courses. (Meetings and graduate assemblies were not included in the annual list of postgraduate courses or in this analysis of courses.) Slightly more than two-thirds of the courses were designed for general practitioners, about one-fifth for specialists, and a little more than one-tenth for both. Medical schools and their hospitals were the location for 58 per cent of the course hours and for about two-thirds of the courses. However, medical schools were the primary sponsors and, presumably, the primary planners of only 35 per cent of the courses. Only 17 per cent of the courses reported to the Council for 1956–1957 were located outside medical schools and hospitals—a great shift from pre-World War II days. Of all 1054 courses, only 149 or 14 per cent used entirely didactic, nonparticipative methods—if the opportunity for question periods (regardless of the size of the group) was considered to make the course participative. It appeared that the source of sponsorship and planning rather than the location was the primary factor determining educational methods employed. A significantly larger proportion of courses sponsored by either general or special medical societies used solely nonparticipative methods. Oddly enough, this was also true in university graduate and postgraduate school courses, in which almost one-fourth of the courses and one-eighth the total hours used solely lecture and similar "one-way" methods. With relatively few exceptions courses sponsored by medical schools included educational methods in which the physician-students had an opportunity to participate actively.

The large postgraduate course program at the University of Kansas School of Medicine—large in terms of number of courses and enrollment—stimulated its Department of Postgraduate Medical Education to study the activities of its physician-students over a 3-year period. The study (20) indicated that a lack of someone to care for a physician's patients while he was away, which had been a major reason physicians had given in the Vollan survey for nonattendance at courses, did not seem to be operative in terms of what physicians actually did—at least in Kansas. The Kansas study showed that there was no significant difference in the number of hours of postgraduate work among 303 physicians who had partners to care for their patients as compared with 368 physicians who had no partners to care for patients. Furthermore, there was no correlation, either positive or negative, between the distance a physician had to travel to courses in Kansas and the number of hours of course work he took in 3 years. In fact, the authors concluded that there was an almost inverse relationship between necessary travel distance and the amount of postgraduate work taken (20).

The astonishing mobility of physicians enrolling in postgraduate courses was revealed in the geographically oriented study of postgraduate courses and enrollments that the Council on Medical Education and Hospitals published in 1959, based on a 2-year analysis of the information collected for the year 1956–1957 (17). The study was based on reports of the geographical origin of 20,432 physician enrollments in 695 postgraduate courses. It was shown that almost one-third of the enrollments were of physicians who came from distances of 50–200 miles and many came from over 300 miles. "It is definitely apparent that in all regions, physicians travel much farther to enroll in postgraduate courses than had previously been assumed. Their actual performance is thus different than is their attitude as it was reported in the Vollan study." It was also found that medical school courses attracted physicians over greater distances than did other courses.

This extensive travel by physicians may be explained in terms of the courses' quality and also by other factors voiced by Dr. George N. Aagaard in 1952: "The physicians (of Minnesota) indicated that even though a program carrying the educational opportunities out into the state was offered, they did not wish to curtail the program that was offered at the medical center. Medical center courses afford the physician a brief respite from the responsibilities and cares of his practice and an opportunity to get back into the stimulating atmosphere of a teaching hospital and to confer informally with physicians expert in a wide variety of specialties" (1).

The report noted that "The evidence of physician travel over relatively large distances to enroll in postgraduate courses is one of the most important and least expected results of this study. It places the needs in this phase of education and the manner of meeting those needs in an entirely different dimension than if one assumes, as most have done in the past, that educational opportunities must be near to physicians if they are to take advantage of them. It also makes it evident that planning to meet the needs of physicians in their continuation education should not be confined to the locality or even the state or region in which the physicians practice" (17).

It is apparent that the Council on Medical Education and Hospitals and other interested groups have studied and discussed the field of continuation medical education for at least the past 22 years. Four intensive studies have been conducted and published during this period; a fifth extensive study is in progress. By the near future, if not now, sufficient information should have been secured to serve as a sound basis for reasonable action. If the kind of action were taken which in the past so advanced the standards of undergraduate and graduate medical education, the potentialities might well be limitless of linking medical educators and the organized medical profession into a united

effort that could advance medical education at all levels.

As Dr. Norwood stated in the report of his survey 7 years ago, "That undergraduate medical education is basic to the development and maintenance of high standards of medical care has been emphasized since the days of Abraham Flexner's report in 1910. It is now time to give more specific attention to the place of postdoctoral (especially postgraduate) medical education in the scheme of educating and maintaining an adequate body of able physicians. Rapid advances in science and the continuous threat of world disaster places the burden of planning and guiding postdoctoral education squarely up to the institutions of medical learning. They need the hearty and sympathetic support of organized medicine" (28).

EPILOGUE

The preparation of an article in 1959 on the history of continuation medical education in the United States since 1930 is somewhat like the preparation of his autobiography by an adolescent—he has not yet reached that maturity when the most notable events should occur. As medical schools and their faculties assume more responsibility in continuing medical education; as university-oriented principles of higher education pervade the planning of programs for physicians; as flexibly interpreted, widely adopted high standards emerge; as only those programs meeting such worthy standards are listed; as newer methods of communication are explored and find their best place—the focus in the future will be on truly high-quality continuing education in which basically well-educated physicians will be attracted to participate as regularly and as matter-of-factly as they now trade in their automobiles.

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The New Outlook in Medical Education in Colombia*

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INTRODUCTION

Colombia is situated in the northwestern corner of South America, extending from latitude 12° N. to 4° S. and from longitude 68° to 78° W. Consisting of an area of 439,512 square miles, the country embraces areas from sea level on the Caribbean and Pacific coasts to snow-capped mountains in the Central Andes, together with low, frequently swampy, inland savannas in the entire eastern half. Major drainage systems are the Cauca-Magdalena, which empties into the Caribbean Sea, many tributaries flowing northeast into the Orinoco River, and several others flowing southeast into the Amazon (see Chart 1). The climate varies from sultry tropical on the two coasts to moist cold in the mountains and higher plateaus. The most important agricultural product for export is coffee; but large areas are devoted to raising cattle, sugar cane, corn, rice, cacao, cotton, and bananas. Oil production is an increasingly valuable natural asset.

The present population is about 13,500,000, consisting of 35 per cent Caucasian, mostly of Spanish extraction, 2 per cent pure American Indian in the highlands, 5 per cent Negroes in the coastal plains, and 58 per cent mestizos and mulattos (8). The families are large, and, although the country has great natural resources, a majority of the population subsist on a submarginal income, with food consisting principally of starches and lacking adequate supplements of proteins, fats, vitamins, and minerals.

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PRE-RENAISSANCE MEDICAL EDUCATION IN COLOMBIA

The Colombian educational system in the past was patterned after that of Spain and France, where emphasis from the beginning of medical training was placed primarily on patient contact rather than on laboratory instruction in the basic medical sciences (2). Previous to World War II a relatively small proportion of Colombian physicians had taken undergraduate or postgraduate training in the United States of America. Medical education was under the direction of European-trained professors who had achieved their positions by competition (*concurso*) and tenaciously maintained their prerogatives. Except for gross anatomy, basic medical sciences were taught almost exclusively by lecture, occasionally also by demonstration. Considerable competence was achieved in surgery. During the War Colombian medicine largely lost contact with that of Europe, and an increasing number of the younger medical graduates began to look to the United States for postgraduate training. As these physicians returned to their country, with new ideas and technics, they met with firm resistance and rarely had a voice in the executive councils; but they did not lose the hope that in the near future they would have a vital part in medical education in Colombia.

Previous to 1943 there were three medical schools in Colombia, e.g., in the National University at Bogotá, the University of

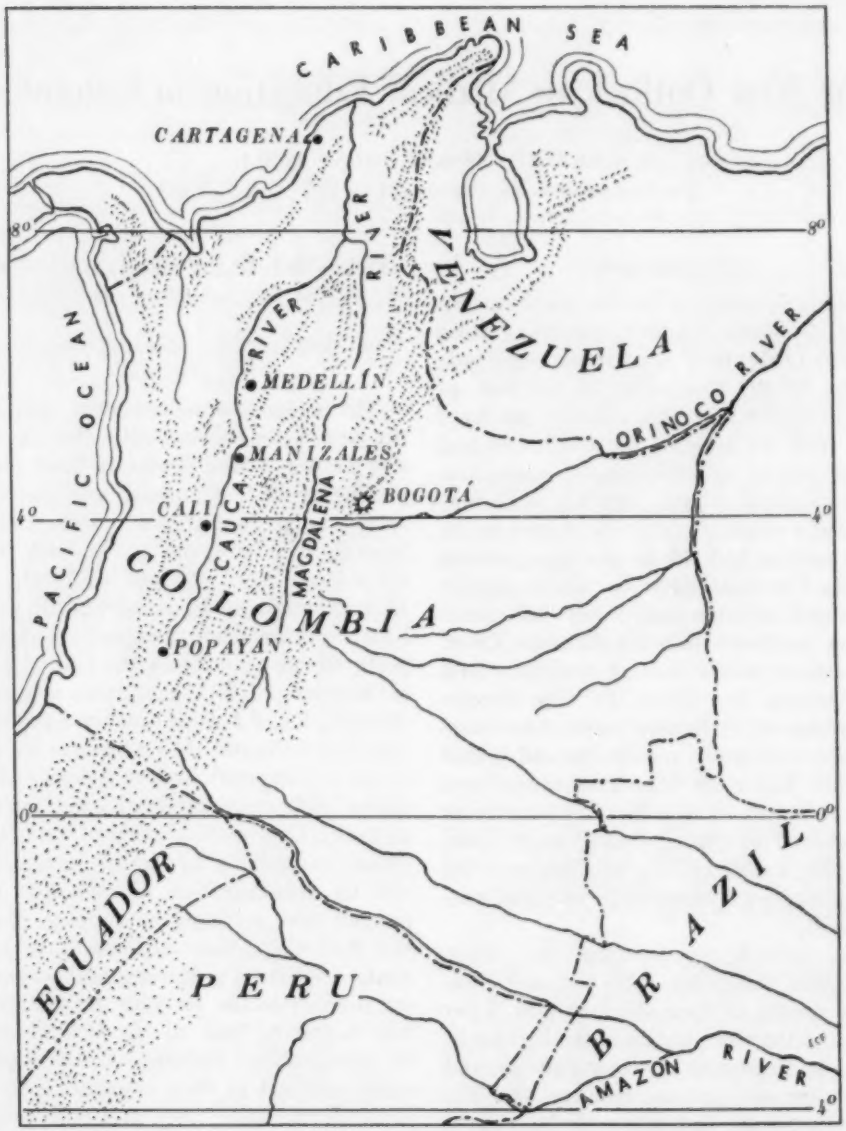

CHART 1.—Map of Colombia and contiguous areas, showing the principal rivers, mountain ranges, and the Colombian cities in which are located the seven universities having medical schools, *viz.*, *Bogotá* (the capital), National and Javeriana universities; *Popayán*, University of Cauca; *Cali*, University of Valle; *Manizales*, University of Caldas; *Medellín*, University of Antioquia, and *Cartagena*, University of Cartagena.

Antioquia at Medellín, and the University of Cartagena on the north coast. All were at that time strongly entrenched in European methods of instruction. In 1943 the Javeriana medical school came into existence in Bogotá.

THE RENAISSANCE IN MEDICAL EDUCATION

The renaissance in Colombian medical education had already been initiated when the Unitarian Medical Mission of North American physicians visited the country on official invitation (October 15–November 10, 1948). The Mission made recommendations (Humphreys *et al.* [6]) which were courteously acknowledged by the executive faculties and filed away, but many younger physicians received lasting stimulus from the visit. Within the next few years three new medical schools were organized: one each at Popayán (1950), Cali (1951), and Manizales (1952). The development of the vigorous young school in Cali, with a faculty consisting for the most part of physicians who had received graduate training in the United States of America under Kellogg Foundation fellowships, was due in no small measure to the encouragement from the members of the Mission and from Dr. Benjamin Horning, at that time Medical Director of the Kellogg Foundation.

Early in 1953 the Rector of the National University in Botogá officially requested the United States Government, through the Institute of Inter-American Affairs, to provide a comprehensive study of medical training in Colombia. A group, consisting of Dean M. E. Lapham of Tulane, Dr. Charles M. Goss of Louisiana State University, and Dr. Robert C. Berson of Vanderbilt, visited all seven schools and their teaching hospitals from July 2 to August 30 of that year.

In their report (Lapham, Goss, and Berson [7]), the group "suggested a series of changes, aimed to strike at the roots of the problem, including modification of the academic organization in most schools along with recommendation of a joint national study of the orientation, techniques, programs, etc., of the entire medical curriculum, together with an analysis of the required and existing facilities for medical education in the country" (1).

In order to initiate the recommended changes and to provide a common basis for discussion and orientation, The Medical School of the University of Valle, in Cali, assumed the responsibility for collecting relevant information preparatory to the First Seminar on Medical Education, which was convened in Cali, December 6–10, 1955. For the first time in Colombia deans and faculty members of all seven medical schools, representing the various medical disciplines, met in sectional and plenary sessions in this seminar and discussed common problems. Following reports and recommendations from the nine sectional groups, the members in plenary session formúlated far-reaching recommendations (1). Two years later a Second Seminar was held in Medellín, primarily to appraise the progress which had been made since the first seminar. There was evidence that in some schools notable development had occurred during the intervening 2 years, while other schools were just beginning to appreciate the need for modernization. On several occasions each year the medical deans have met to discuss mutual problems and to outline future plans.

Soon after the Second Seminar (1957) the Association of Colombian Medical Schools came into being; then the universities obtained autonomy, so that rectors and deans are no longer replaced whenever there is a major or minor national political change. Likewise the National University Fund, which at that time came under the direction of the rectors, has become an active participant in the medical education program. In addition, special mention must be made of continuing counsel, provision for fellowships, and financial assistance from the Kellogg and Rockefeller foundations.

The medical school in Cali, with an enlarging faculty of dedicated young physicians under a competent full-time dean, Doctor Gabriel Velázquez Palau, has been the leader in developing modern medical educational programs adapted to Colombian

needs. However, there is increasing evidence of vigorous development in a majority of the other medical schools.

The independent University of the Andes in Bogotá is the only institution in Colombia which as yet has a faculty comparable to a college of arts and sciences in the United States. In past years applicants to the professional schools in Colombia have been admitted directly from the high schools by certificate (*bachillerato*), examination, and, in six of the medical schools after personal interviews—but lacking substantial basic science training. Inadequate premedical preparation and immaturity of the students have resulted in an attrition of up to 50 per cent or more during the first 2 medical years. This not only constitutes a serious waste of facilities and faculty time but likewise of student potential. However, a 2-year premedical curriculum at university level has been approved by all the schools, although only two schools have thus far instituted this program. The first group with this training, obtained at the University of the Andes, with assistance from the Rockefeller Foundation, entered the medical school at Cali in September, 1959. This 2-year premedical course will require additional funds, physical facilities, and above all a well-trained professional staff not presently available in sufficient numbers in Colombia.

Progress is being made in coordinating individual professorships (*cátedras*) into departments, with an increasing number of full-time personnel in the preclinical disciplines and in key positions in the clinical subjects; likewise in coordinating patient care and instruction in the teaching hospitals under the direction of the chairmen of the clinical departments of the medical schools. Better salaries for full-time professors are being provided so that they are not obliged to conduct private clinics in order to supplement their academic stipend. One of the most hopeful signs in all seven medical schools is the development of practical courses in epidemiology and preventive medicine (10).

All these new projects will require increased budgets. Six of the medical schools obtain an appreciable portion of their total income from the National Ministry of Education, with variable amounts from the state and city, student tuition, and special funds. The one private medical school (Javeriana) has in the past depended almost exclusively on student tuition, but is now campaigning for additional support from industry and private sources. The 1959 budgets for these medical schools, not including clinical instruction in the hospitals, ranged from slightly over one million to nearly three million Colombian pesos (about U.S. $125,000–$375,000). Per medical student this varied from $1,787 to $11,535 pesos. Because of more limited student registration, the three youngest schools have the largest available amount per student, but this does not necessarily mean that the budget has always been utilized to best advantage.

TULANE'S PARTICIPATION IN COLOMBIAN MEDICAL EDUCATION

Tulane's participation in the medical education program in Colombia developed from a request of the Rector of the National University to the Government of the United States of America, in 1955, for consultive service. ICA/Washington invited Tulane to undertake this responsibility. The program was planned to have a Resident Coordinator (Chief of Party) in Colombia and to provide yearly four or five senior Tulane consultants, each experienced in a medical discipline and in medical education. During several months in the country these consultants would visit each school, become acquainted with its deans, faculties, students, and physical facilities, and would provide helpful suggestions (4). The project was activated in April, 1956, with the following specified objectives: (*a*) to assist the several medical faculties in the modernization of their curricula; (*b*) to help in the orientation of outstanding young Colombian physicians who are interested in academic medicine rather than private practice and, when requested, to assist them in finding oppor-

tunities for graduate study in the United States and elsewhere; and (*c*) to encourage medical investigation (4).

Between July, 1956, and July, 1960, fifteen Tulane consultants visited the Colombian medical schools, representing the following disciplines: anatomy and neuroanatomy, basic chemistry and biochemistry, physiology, pharmacology, microbiology, mycology, parasitology, internal medicine, hematology, clinical nutrition, pediatrics, psychiatry, surgery, anesthesiology, and medical library science. Return tours of the consultants who had visited Colombia 2 or 3 years earlier are being scheduled, for evaluation of progress during the intervening period. This is coming to be a very valuable part of the program. With increasing interest and appreciation on the part of their Colombian colleagues, the Tulane consultants are providing sympathetic understanding and skilled technical assistance in their respective specialties—a type of help which visiting medical administrators cannot easily extend even though they may have a good over-all perspective of the needs of each school. Within the past 4 years the Tulane professors and the Resident Coordinator have been consulted by more than 100 young Colombian physicians and medical scientists desiring to obtain graduate training outside of Colombia. A large majority of these aspirants have been interviewed as prospective fellowship applicants or for residency training at the request of the medical deans, heads of departments, and medical graduates themselves. This counseling service has proved to be a very important aspect of the program.

Because most of the participants in the graduate training program have lacked satisfactory foundations in mathematics, physics, chemistry, and English, The Rockefeller Foundation suggested that Tulane University set up a 1-year course in these basic subjects for several of its foreign fellowship students. The Colombian Mission of ICA has likewise found this course to be very useful as a background for its graduate medical trainees. For many participants a minimum of 2 years, at times 3–5 years, is needed to acquire skill and teaching experience in their respective specialties. This poses a serious financial problem, since the granting agencies are not favorably inclined to extend fellowships beyond a second year.

The third Tulane objective, that of encouraging medical investigation, is, and will continue to be, the most difficult one to achieve, owing in most schools to lack of research equipment, trained technical assistants, and to an overwhelming burden of teaching, administrative duties, and patient care in the teaching hospitals. Nevertheless, there is hope for the future, since an increasing number of younger physicians, stimulated by their graduate studies abroad and by a realization of the importance of medical research, return to take responsible positions in the medical faculties. They will need time to devote to investigation, technical personnel, adequate physical facilities, and continuing encouragement and counsel.

A most pressing need in each medical school in Colombia is a good reference library for teaching and research. Four of the seven schools now have a fairly satisfactory working library of current medical journals, thanks to the assistance of the Rockefeller Foundation and to Tulane, but they lack the earlier volumes. Dollar funds to fill the gaps, to continue subscriptions, and to increase the coverage are not easily obtained. During her Colombian tour in 1959 the Tulane consultant in medical librarianship compiled a "union list" ("Serial Holdings of the Medical School Libraries of Colombia") of the periodicals in the Colombian medical libraries. This list has been mimeographed, and copies have been distributed to each school. Duplicating facilities are being set up in two institutions to supply copies of individual papers needed by workers in other Colombian medical centers where the periodicals are not available. Trained medical librarians are presently lacking except in the school at Medellín.

THE FUTURE OF MEDICAL EDUCATION IN COLOMBIA

Considering that the renaissance in medical education in Colombia began less than 15 years ago, one must conclude that remarkable progress has been made. This is especially noteworthy, because younger physicians had to be enlisted and given postgraduate training for academic positions, in an environment where the cultural pattern has also required gradual reorientation. Recently President Eisenhower's Committee on Government and Higher Education in the United States of America has remarked (1959) that "educational institutions reach the summits of greatness only by long and arduous efforts." Applied to medical education in Colombia, this means that an excellent start has been made, and, with continuity in office of competent deans and faculties who are able to build on the present new foundations, in another 10 years the standards of some of the Colombian medical schools in many respects may approach those of the present day in the United States of America and Canada.

In order that applicants for medical and other professional schools in Colombia may be adequately prepared for admission, the entire philosophy and teaching program of primary and secondary education must be reorganized, so that the student ceases to be a mere memory factory and comes to appreciate method rather than accumulation of facts (9). Likewise, each Colombian university should develop its own college of liberal arts and sciences, for which special personnel will have to be trained; and the medical schools themselves will need to continue the progress which has been well initiated within recent years. Finally, medical and other university students must learn that they are not sufficiently mature or experienced to dictate programs and policies to their deans and instructors. The students should have ready access to the administrative bodies of their schools to present their problems and complaints, but it is hoped that they will soon come to realize that student strikes are as disastrous for the students as for their professors and the institutions in which they are enrolled.

Quoting from one Tulane consultant's report (5), "Colombia possesses a great asset in the high dedication and zeal of an unusually fine group of men who constitute the members of the respective medical faculties." They manifest unselfish devotion to teaching and administrative responsibilities; their financial sacrifice is great; their curiosity and eagerness in seeking new ideas and solutions to existing problems are a stimulating experience to one who is privileged to consult with them. All these attributes indicate continued sound development of medical education in Colombia.

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Research and Elective Time in the Medical School Curriculum

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The teaching of clinical medicine at the University of Chicago Clinics was started with the admission of the first patients in October, 1927. Prior to this, the faculty had already made the committment that the chief aim of the medical school should be the "advancement of the medical sciences." Implicit in this decision was the desire to train young men to carry on this concept. This training for medical students implied that they should participate in or initiate research programs. At that time, as now, there were pressures to include a host of factual data in the curriculum. The counter-pressure was furnished by the belief that enough time must be available to students to allow them to pursue independent investigation. Over the past 3 decades elective time has been created throughout the 4 years of medical school. This time has been carefully guarded by the faculty so that no department or individual could encroach upon it.

A few years ago, certain changes were made in the curriculum as the result of a study made by a faculty group. One principle was foremost in the deliberations which were made at that time: There was to be no incursion of the elective time. Following the institution of the new program, we felt it would be wise to see how our students used the elective time. A questionnaire was sent to the 69 medical students who graduated in 1959. All students responded.

Before discussing the data from that questionnaire, it is necessary to show where elective time is available in the curriculum of our medical school. This is seen in Chart 1. This figure indicates that the elective time available to students starts in the first year. A similar period is also present in the sophomore year. The senior year has 1½ quarters devoted to elective time. During these times, the student must acquire certain course credits for the activity which he elects. The basis for credit is wide and includes research, clinical work, courses, and seminars. This elective work is usually taken at the University of Chicago but may be taken elsewhere by special arrangement. Off quarters following the first year and during the third year are shown, since a large number of our students remain in residence to do research at that time.

The questionnaire was largely concerned with the use of elective time in the senior year. Reference will be made to the research activities of the students during the first 2 years. Because of this, it should be noted here that our faculty tries to interest the freshman students in research as an elective during their spring quarter. Members of the faculty meet with the students to discuss their research projects and to urge their participation in such programs in their freshman year. A high proportion of students do partake of this opportunity, and quite a few of them continue this work throughout part or all of their medical school careers.

The questionnaire dealt first of all with the utilization of the two periods of elective time in the senior year. The smaller of these two periods (Chart 1) occurs during one-half

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of the OPD semester when Tuesday and Thursday afternoons are free. There is no requirement for students during this time. There are seminars and other activities scheduled for those students who wish to participate. Since no credit is given for attendance, this might be termed "pure" elective time. The activities of the students during this period are summarized in Table 1.

Elective courses and seminars were varied. The course in electrocardiography was most heavily attended. Other seminars such as those relating to gastrointestinal and chest disease were also popular. The work in clinics was limited, because there are relatively few scheduled clinics in the afternoon on Tuesdays and Thursdays. It will be noted that fifteen students managed to continue their research work. It is interesting that those who did research took an on average of 1.2 other activities, whereas those who did no research only attended 1.1 such activities.

"Goofing off" during this period of time is to be defended. Those who admitted it were generally good students. Since this term was not defined in the questionnaire, this should be interpreted in favor of the students. "Other things" included practically everything from dental work to housework (this from a married female student).

During the 18-week elective period the same number of course credits are required as for any other comparable period of time. The credits may be obtained in any one of a number of ways or in any combination of them. Research may account for the total number, as may clinical work or attendance at seminars or more formal courses. The course work is usually taken within the

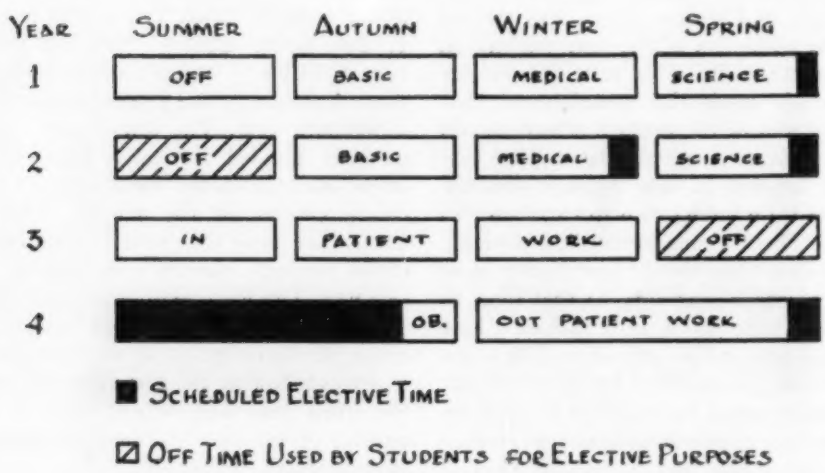

CHART 1.—Elective time in the medical school curriculum. Time available for elective work in the 4 years of medical school at the University of Chicago.

TABLE 1

USE OF THE ELECTIVE TIME WHICH IS AVAILABLE ON TWO AFTERNOONS A WEEK FOR ½ OF OPD SEMESTER

	No. students
Elective courses and seminars	47
Work in clinics	4
Research	15
Studied	39
"Goofed off"	15
"Other things"	15
No answer	8

Division of the Biological Sciences, but this need not be so. Students may receive credit for work done away from the University of Chicago. These more exotic pursuits are made by special arrangement.

Last year's class spent this elective time in the manner shown in Table 2.

Fifty-five of the students took elective courses and seminars. They averaged about three such apiece. Forty-five worked in the clinics, the average being about two clinics per student. Twenty-eight did research. would have done research whether there had been elective time or not.

TABLE 2

USE OF THE ELECTIVE TIME DURING THE 18-WEEK PERIOD OF THE OBSTETRICS-GYNECOLOGY ELECTIVE SEMESTER

	No. students
Elective courses and seminars	55
Work in clinics	45
Research	28
Miscellaneous	20
No answer	3

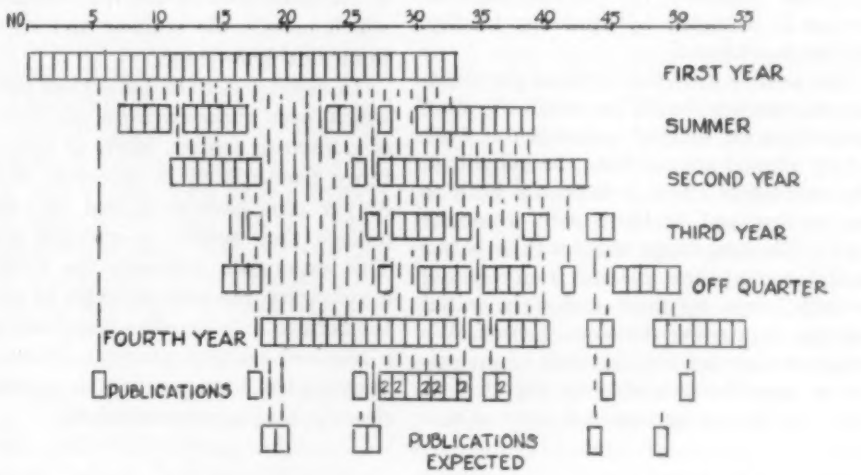

CHART 2.—When students did research work. Blocks directly under one another indicate continuing work by the same student. Blocks containing number 2 indicate two publications by the same student.

The miscellaneous activities, which were enjoyed by twenty students, included subinternships, assistantships, and other pursuits which in some cases were not done for credit. It is again interesting to note with this group that, despite carrying a research load, those students doing investigation took on an equal number of nonresearch electives as did the other students, the average number per student for both groups being 3.7.

Of the 69 students who graduated last year, 55 participated in research at one time or another during their 4 years in medical school. Of these, 36 (or 65.5 per cent) felt that the elective time was essential for their doing any research at all. The remainder

Chart 2 summarizes the research activity of students. It shows when research was done and the publications which resulted from this research. It can be seen that 32 students started in the freshman year. Of these, seven stopped after this time; eleven continued to work for a summer or more but did no work after the third year had started. The remainder continued to work throughout the time they were in medical school. Six students started to work in the summer of their freshman year. The remainder started in either the second, third, or fourth year. These students participated in research which was considered worthy of publication in national journals. Some

of the work was only in abstract form. At this writing, twenty publications by fourteen students have appeared, and six others are anticipated by the students and their advisors. Several students made significant contributions to projects which did not result in publication but which will be incorporated into continuing research programs. The areas in which student research was conducted include basic science, clinical medicine, and the history of medicine. It should be noted that time is set aside each year for the presentation of scientific papers by senior students. This Senior Scientific Session is attended by students, faculty, and medical alumni.

Our faculty feels that student participation in research should be voluntary, since motivation for original experimental work is best when it arises within the individual. The immediate effect is beneficial both to the student and to those with whom he works. The long-range effect will be better for the student than will that from required research, since he must make the initial and the continuing decisions himself. We recognize that the enticing fruit of investigation must be available to the student early and that an interest in it must be nurtured by the faculty. At the University of Chicago we are fortunate in having a faculty in both the nonclinical and clinical areas which is devoted to research as well as teaching, and there are ample opportunities for students to work in laboratories. Thus, voluntary student research is encouraged and made attractive. Our faculty is enthusiastic about this method. The end-result has been that the majority of our students have instilled in themselves habits which will last for the remainder of their professional lives. An additional dividend is the number of worth-while publications which benefit the student and contribute to medical knowledge.

In summary, data have been presented which were gathered from our last group of graduating seniors. Many of them voluntarily participated in research, and over 35 per cent have published or expect to publish their results in national journals. This experience enhances the belief that a voluntary research program is effective. We believe it to be more worth-while than a required research program. Finally, this program has been possible by maintaining elective time in our curriculum.

House Staff Training on a Private Medical Service

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The post-World War II demand for the establishment of residency training programs to accommodate the large numbers of veteran physicians resulted in the sudden approval of many private hospitals for residency training. The majority of these residency programs have continued to operate despite the fact that the need for their inception no longer exists. There currently are available in this country far more residency positions than domestically trained candidates for these positions. This has resulted in fierce competition between hospitals for the relatively few eligibles, thus reversing the more healthy trend of candidates competing for the choice positions.

In this competition, the long established residencies in university and municipal hospitals have rightfully triumphed in acquiring the best students (best from the point of view of education and ability). During this same period the establishment of new residency programs in Veterans Hospitals and Armed Forces Hospitals further separated the private hospital programs from the main stream of most qualified candidates.

Many private hospitals began to offer attractive inducements in the form of increased "stipends" (now reaching figures to merit the more appropriate term "salary"), family housing facilities, fringe benefits, fewer nights on call, etc. Fortunately, this has done little to change the trend, since well motivated candidates are seeking an educational experience and not merely a good "job."

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Many private hospitals with well qualified and cooperative staff physicians offer excellent programs of instruction including conferences, rounds, seminars, lectures, etc. A more recent trend has been toward the employment of a full-time Director of Medical Education whose function it is to coordinate the training program and to give the program his undivided attention. These practices have resulted in excellent formal teaching programs, but, as Snapper (1) has pointed out, have not significantly increased the rate of application for house staff positions in most private hospitals.

The primary problem in the private hospital is the availability of patient material to the House Staff members. The most important requirement of internship and residency is that the trainee acquire a wide experience to include responsibility for the management of disease. He must be assigned responsibilities and increasing responsibilities consistent with his abilities and experience. The problems pertaining to this requirement on private medical services are obvious.

However, socio-economic conditions have extended this problem to the university medical centers as well. The current high standard of living and the universality of medical care insurance have caused the gradual disappearance of the indigent patient who classically has been the backbone of medical educational programs. The large medical centers must also utilize private patients in their teaching programs. The private hospital now has the opportunity to become competitive in relation to this most basic aspect of medical education.

Private hospitals can provide fully acceptable excellent training programs based upon the utilization of private patients. A few basic principles must be recognized and abided by.

1. The primary purpose of internship and residency is education and not service. These cannot be completely separated, but service should not be rendered unless it results in educational gain.

The departmental teaching program must be reviewed as an educational curriculum which functions to some degree independently of "housekeeping" requirements of the "campus." In other words, there need be pre-definition of the responsibility of each individual in the program. For example, if it is decided that one intern and one resident be assigned to one ward unit the responsibility cannot be increased to two ward units if the "enrollment" drops off in any particular year. The Medical Staff of the hospital must accept the fact that the house staff will not be spread thinly for the prime purpose of accomplishing all the chores of the hospital. Furthermore, and much more difficult, it must be assured that the members of the attending staff themselves perform these tasks when no house staff physician is assigned to a service. This is essential if the highest standards of hospital care are to be afforded to all patients. This includes the requirement that the attending physician accomplish and record a complete history and physical examination.

The house staff should not be required to perform service relating to private patients unless these patients are available as educational material. This does not imply that a history and physical examination and venapuncture should not be performed on an uninteresting or reluctant patient. It does imply that, in general, the patients admitted to a service will be available for teaching purposes, formal or otherwise: This is best accomplished if this is hospital policy and if staff appointment be contingent upon acceptance of this principle.

2. The trainee must be included in the total responsibility for the total care of the hospitalized patient. His role must be active. Responsibility must not be confused with irresponsibility. The responsibilities of the house staff members must be graded according to their experience and proficiency. It must be pointed out that, in public and university hospitals with large "service" bed capacities, the house staff has considerable responsibilities for the management of the patients. However, it is often forgotten that this is, or should be, ***supervised*** responsibility. The ultimate responsibility lies with the visiting physician or chief of service who delegates this responsibility according to the capabilities of his staff. This concept of a supervised responsibility can just as well be applied to the care of private patients without endangering the private patient-doctor relationship.

The attending staff physicians must become imbued with the concept that the house staff member is his associate in his hospital practice: that he has a defined role in the care of this important segment of his practice and that this role must not be merely permissive or passive.

The resident physician must be offered the opportunity to formulate and exercise judgment and to act when necessary. He must be included in the consideration of management of each patient, and his opinions must be in turn weighed and respected in the formulation of the final decisions. This can in no way be construed as interference with the private practice of medicine. The resident physician must be permitted to act independently when the situation demands prompt action.

Above all, the house staff physician must not be by-passed by the attending physician. Nothing is more frustrating and of less value than the all too common practice whereby the private physician admits a patient, writes orders, changes orders, dismisses the patient, and writes a few notes. The house officer has been magnanimously "permitted" to see this patient. (Beware if he did not write up a history and physical examination. It matters little if it is accu-

rate, but it completes the chart.) Otherwise he has been given the "brush-off."

3. Physicians and the communities which they serve must constantly be made aware of the benefits of a teaching program. A continuous campaign must be waged to emphasize the importance of the hospital educational program. Emphasis should be placed upon the value of the program as continuing postgraduate study for the attending staff with obvious ultimate benefit to the patients. One should never refer to a patient as being "used for teaching purposes" but rather, "being afforded the benefits of a teaching program."

The Menorah Medical Center is a 337-bed voluntary community hospital. The Center is approved for rotating internship and for residency training in Medicine, Surgery, Pathology, Radiology, and General Practice. A 3-year residency is offered in the Department of Medicine. In addition, the Department of Medicine is affiliated with the Department of Medicine of the Kansas University Medical Center, and during the school year Junior Medical Students serve 6-week full-time clinical clerkships at Menorah, each group consisting of eight to ten students.

During the past few years certain changes in the organization of the Department of Medicine have been introduced in order to fulfill the criteria discussed above. It is believed that these changes have resulted in a better educational program while at the same time improving patient care.

First, recommendations were made concerning the writing of orders on patients admitted to the hospital. Formerly, most patients arrived accompanied by a list of admission orders. If this were not the case, the nurse phoned the attending physician for orders when the patient arrived on the ward unit.

At the present time no orders accompany patients, nor is the attending physician called by the nurse. The intern must first see the patient and, if circumstances permit, will do a complete work-up before proceeding. The responsible house staff (intern and resident) will discuss the case and write the indicated orders after consulting with the attending physician.

This procedure permits the house staff to render independent judgment rather than to remain passive observers. Their decisions may be discussed with the attending physician, and each such telephone conversation is a teaching exercise. It is rare that the intern's or resident's decisions are questioned, and when they are it becomes a discussion of mutual benefit. Of far greater importance is the fact that by this means the attending staff soon becomes acquainted with the ability of the house staff. Before long most attending staff members acquire enough confidence in the residents to assure them they may initiate management which may be further discussed on ward rounds.

This procedure is extended to other than admission situations including changes in the patients' course. The intern is first called, and the responsible house staff members have the first opportunity to render judgment.

The important factor concerning the success or failure of such a plan depends upon the communication between house staff and attending physician. The private physician, after a period of mutual orientation, has little hesitancy to permit the house officer to act for him as long as he is kept informed.

In the past, the Department of Medicine was divided into services based on individuals. That is, a service consisted of the patient population of between eight and ten physicians. There was no geographic division between medical and surgical services, and the patients on a service were scattered about on any of the six wards on three separate floors. The physical difficulties were obvious.

Interns and residents were assigned to these services on a rotational basis. Each house officer was responsible for the care of all the patients on their service and to each of the attending physicians on their service. It was impossible to fulfill their responsibilities under these circumstances. The

handicap of space has already been mentioned. The split responsibility for teaching also had its inherent problems. It was impossible for the house staff to make teaching rounds with all these attending physicians. Furthermore, the house staff had to depend upon the attending physicians with large in-patient loads in order to have patient material for discussion. The attending physicians with small in-patient services had little or no opportunity to participate in bedside teaching. Included in this group were some of the best qualified teachers.

The hospital is now divided into Medical and Surgical Ward units, and patient placement is dependent upon the disease and specialty of the attending physician. House Staff members are assigned to a ward unit. This had been tried in the past but was a complete failure. It failed because no provision was made to define educational responsibility. Interns were responsible for the care of all patients admitted to their ward and became dependent for their education upon 4 times as many physicians as in the past. Bedside teaching became nonexistent.

At the present time one attending physician is on "teaching service" on each of the ward units for a 2-month period. He includes all the patients on the ward unit in his teaching rounds.

Naturally there were many objections to the introduction of the concept of physicians' making rounds on the private patients of other physicians. The objections concerned interference with private practice, possible embarrassments, and contradictions. Actual operation of the system has erased the objections of the most skeptical.

From the inception of the plan the possible problems were considered and dealt with. It was emphasized that success depended primarily on the judiciousness of the resident staff. It was emphasized that the resident physician must guide the rounds, temper the discussion, and avoid nonacademic criticism. The usual procedure is to present the patient's history and physical findings outside the room, examine the patient, and finally discuss the findings away from the patient. Pertinent discussion is usually entered upon the chart as a resident's progress note. No orders are written or countermanded by the visiting physician. In effect these rounds serve as consultations.

We are not aware of any serious objections on the part of the patients. However, all patients admitted to the hospital receive a small booklet which describes the nature, purpose, and advantages of the teaching program so that they are primed for these third-party visits. The text of this brochure is reprinted in the Appendix.

Finally, the inclusion of a patient in this program is purely voluntary. A permission sheet is placed upon the front of each chart stating: "Please include my patient..... in the ward teaching program." This sheet is signed by the attending physician. The success of the program is attested to by the fact that only a rare permission sheet remains unsigned and then usually as an oversight.

The Department of Medicine teaching program has been a gratifying success. All concerned are enthusiastically participating. The house staff is receiving a first-rate educational experience. Many members of the attending staff who were qualified, but had little opportunity, are now actively teaching and boasting that they "have to go back to the books." Patient care has improved considerably as a combined result of ward specialization, identification of specific physicians with the ward unit, and mostly because of over-all enthusiasm.

A final word concerning increasing responsibilities of the resident staff. This is accomplished in a number of ways. First, the sense of "supervised independence" results in more opportunities for the senior residents to exert their judgment. Each of the second- and third-year residents rotate through a subspecialty service. During this period they are assigned to a subspecialty clinic. In addition, they are responsible to the attending staff man who is of consulting caliber in that subspecialty. When a private consultation is requested the appropriate

resident has first opportunity to work-up the patient and render judgment with his preceptor. Finally, the chief resident has primary responsibility for the six charity service beds.

SUMMARY

Successful residency programs may be carried out in private community hospitals if proper attention is paid to providing an educational experience assuring appropriate responsibility for the House Staff and emphasizing the advantages to staff and patients. The means for accomplishing these ends are described.

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APPENDIX[1]

You are about to be admitted as a patient to the Menorah Medical Center. Whether your illness be major or minor in the medical sense, to you it is of first magnitude. For this reason we believe that you should be informed about certain aspects of our hospital in order to assure you that we of the hospital family consider your illness as being of first magnitude.

You will note that our official title is Menorah Medical Center, not Menorah Hospital. What is the implication of the term "Medical Center"? Menorah is not merely an attractively aligned pile of bricks and mortar providing bed and board. It is an institution in which are contained the facilities which will permit your physician to avail himself of the most complete and modern diagnostic and therapeutic procedures.

But, most importantly, Menorah is a Teaching Hospital: An educational institution carrying out a mission at all levels from that of the medical student to the practicing physician. This is the factor which makes Menorah a superior hospital. This is the factor which provides for you, the patient, the superiority of medical care.

Since World War II many private community hospitals have become teaching institutions, a privilege which had formerly been limited to University and Municipal hospitals. This has resulted in immeasurable benefit to the private patient, who now became eligible for that ideal care formerly limited by the capacities of such institutions.

We at Menorah are proud that its Board, Administration and Staff agree to the necessities for the teaching program. We never attempt to justify the position that we use patients in the teaching program, but proudly state that we afford the benefits of our teaching program to all patients.

What makes the teaching program so important to your care? There are several and specific answers to this question. Medicine, more than any other discipline is changing at a spectacular rate. More medical knowledge has accrued in the past generation than in all of prior recorded history. If a physician does not continue to learn after completion of his formal education he will soon fall behind. In addition, medicine is becoming so complicated and diversified, borrowing from all sciences, that no one man can become a fully informed expert in all aspects of disease. The teaching hospital becomes the arena in which the physician can constantly be increasing his knowledge while carrying out his practice of medicine.

A more specific benefit of the teaching program relates to the presence of the students and trainees, who are constantly studying and reviewing each case in the hospital: who are constantly asking questions and expecting answers concerning each case. This causes all of the physicians (who are the faculty) to remain informed; to be asking themselves the same questions in anticipation of the students' inquiries and applying the answers to the patient's problem. The ultimate benefits to the individual patient, to you, are obvious.

Who are the students in such a program? What may I expect when admitted to the hospital? Who are the various doctors whom I will meet and what are their responsibilities? Why will doctors other than my own examine me?

The prime enrollees in our educational program are the members of the house staff: The interns and resident physicians. These are fully qualified physicians who have completed medi-

[1] Text of booklet given to all patients at time of admission to Menorah Medical Center.

cal school and hold a medical degree. For the intern, this is a year of observation and application of the principles learned in medical school. The resident is a physician who has completed an internship and has chosen to continue his training for periods up to 4 years in order to qualify as a specialist. In return for the education they receive, they perform medical service under guidance and supervision. Each member of the house staff has a definite responsibility in relation to each patient in the hospital. This young man is your physician's associate in his hospital practice; his eyes and ears on a 24 hour a day basis. This intern or resident is responsible for your welfare as prescribed by your own physician. He is an integral part of your medical care.

Such being the case, he must know as much about you as possible and, therefore, will take an independent medical history and do an independent medical examination. Here his independence ends. Now he will confer with your private physician and discuss mutual findings as well as discrepancies and arrive at a plan of management. You can appreciate that he has a major responsibility, but is supervised and coordinated. It is not an irresponsibiiity. He is constantly in touch with your own private physician.

On many occasions you may meet other physicians who will discuss your case and this should be explained. As stated previously, all of the physicians on the Menorah Staff are on the faculty. This is part of their staff obligation. However, because of time, numbers and other practicalities, each physician may have a specific teaching assignment. During these assigned periods they will make "teaching rounds" for the purpose of formal discussion of medical problems. These are academically oriented sessions in which no attempts are made to direct or interfere with management of the patient. The purpose of these sessions is to discuss health and disease on an academic plane. In this case your problem, not you, is the focus for discussion. However, in each case, these discussions ultimately benefit you by virtue of the exchange of knowledge which occurs.

Your individual case may be of special interest or may present an unusual problem. In such situations it may be discussed at a formal conference or symposium at which all may benefit by the information presented, or at which all may have an opportunity to contribute some bits of knowledge which may unravel a complicated, unresolved problem.

It must be emphasized that in no situation does any patient in the Menorah Medical Center participate in this program without the specific consent of his or her personal physician.

In summary, the teaching program at Menorah Medical Center is its greatest asset. Its purposes are to train physicians to enter the community and practice medicine: To provide continuing education to practicing physicians, and most importantly, TO PROVIDE BETTER PATIENT CARE.

Observation of the Behavior of Normal Children
An Approach to Medical Education*

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Four out of ten of the patients seen in the general clinic of the University of Florida are perceived as suffering from personality disturbances sufficient for psychiatric referral. These patients are probably representative of general clinical practice. In the treatment of these illnesses, and of more completely physical illnesses, the modern physician is supposed to be aware of the complex emotional, social, and ecological factors involved in the treatment of a patient. It is generally accepted that medical training needs to have incorporated into it experiences designed to provide the nonpsychiatric physician with sufficient sensitivity and skill to cope successfully with the patients he will be expected to serve. While it would be highly undesirable for most physicians to practice intensive psychotherapy, they need at least some understanding of their own personality assets and liabilities, their own perceptions, and an awareness of the meaning of the behavior of the patient.

The "human growth and development" phase of the "Introduction to Medicine" course at the University of Florida is designed to begin this process of understanding. A major procedure used is the observation and analysis of normal child behavior in the school setting.

Through this procedure, students are able to observe behavior in a meaningful fashion, without personal reciprocal involvement.

The "Introduction to Medicine" course consists of a variety of directive and nondirective teaching procedures, so integrated that these occur in ways that provide both maximum personal involvement on the part of the student and coverage of basic factual material when appropriate. The observations are a part of the more nondirective phases of the course. They are complemented by seminars which provide for exchange of both ideas about personality and of data collected in observations (4).

PROCEDURE AND RESULTS

The P. K. Yonge Laboratory School, a kindergarten-through-high-school institution, cooperated extensively in providing facilities and arrangements for observations. All observations in the kindergarten and elementary school were made from specially built observation booths which allowed the students to gather data without the awareness of the children being observed. In the secondary school, observations were made in the classroom. Since this school is used extensively in teacher education, the high school pupils are used to the presence of observers and, for the most part, ignore them.

The observations consist of three phases:

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scanning, intensive observation of an individual and seminars, summary sessions. The following is a description of the observation laboratory as it was conducted in 1958–1959.

Scanning Observations

The scanning observations were related to the study of physical growth and development. Two observer teams, each having four of five members, were assigned to each of the following grades: kindergarten, second, fourth, sixth, eighth, and tenth. While one team observed the children in the classroom setting, the other team assigned to the same class gathered height, weight, age, and sex data from the school nurse's records. The following week, the teams reversed this procedure. Each team thus observed an hour and worked in the office for an hour. The second hour of each period was for group work in sharing and organizing the data.

The observer team watched the whole class, noting and recording in particular: body build, general physical maturity, coordination, degree of activity, and developing secondary sex characteristics. Each student was responsible to gather data on two of the above variables. The data were recorded on check sheets designed to lend themselves to statistical reporting.

Summary of scanning observations.—The data which had been gathered in both the classroom and the nurse's office were organized both longitudinally from kindergarten through the tenth grade and cross-sectionally for each grade into a series of statistical charts. Each observer team, and each group of students responsible for particular variables were required to work together and to create their own charts. Their work in statistics, another phase of the course, was designed to help them in this task.

The reports consisted of growth curves for height and weight by age and sex, and charts depicting the relationships between such variables as body build and activity level.

The reports were followed by class discussion as to the meaning of the data to the physician.

Detailed Observation and Seminars

At the beginning of the second semester, the first-year medical students were divided into about ten observer teams, each composed of four or five students. Each team was assigned to study a particular child in the P. K. Yonge Laboratory School. The children were selected by their teachers as representative, normal children, i.e., free from the types of emotional difficulties of which teachers would be aware. Children from kindergarten through the twelfth grade were selected, so that both childhood and adolescent periods were observed by class members.

The training method used was, first, a preparation session. They read about how to observe behavior (3), and then, in class, viewed a role-playing session. A group of students were assigned to observe the behavior of a particular role-player, a fellow-classmate. Each wrote what he saw. Then these groups worked together with a staff member, each sharing his recording. Criticism of each other's reports revealed the degree of subjectivity in each report.

At the next session of class, they went to the school and observed their pupils and submitted written reports. These were read and criticized by their seminar leaders and returned to them before their next observation period. In this way, they had a "feedback" of their efforts each time they observed.

Observation periods were 2 hours in length, once a week for 6 weeks. After five observations, each observer team had an appointment with the teacher. They used this time to gather more background information and to corroborate their inferences about the child.

Concurrent with these observations, 2-hour seminars were held. These seminars were designed so that the students could use the time to discuss their observations, working on the problems of differences in

perception and difference in interpretation of behavior, or they could discuss personality theories, using as their source Hall and Lindsey, *Theories of Personality* (5), or they could combine these in any fashion they wished. To give some notion of the range of background of seminar leaders, they were drawn from the psychological section of the Foundations of Education Department of the College of Education and the Departments of Medicine and Psychiatry of the College of Medicine. Each seminar was composed of two observer teams.

Summary session of detailed observations.—The group summary was the next experience. This occurred in the 8th week of the semester. Each group was responsible for presenting to their colleagues a 15-minute written report on the child they had observed. The instructor specified that those reports were to include information as follows:

1. Describe the patterns of behavior which this child uses in dealing with close peers.
2. Describe the patterns of behavior that this child uses in dealing with remote peers.
3. Describe the patterns of behavior that this child uses in dealing with teachers and other authority figures.
4. Describe the pattern of behavior that this child uses in dealing with material things.
5. Describe those environmental actions or situations which modify the child's patterns of behavior as described.
6. What techniques would seem desirable, if a physician were to attempt to modify the patterns of behavior described?

It will be noted that they were *not* expected to make any deep analysis of the child. Their summaries, except for item 6, were still essentially descriptive. They were not asked to infer causality or motivation, although in fact each group had prolonged discussions of these factors. Since, as another phase of the course, each student submitted a paper on his theory of behavior in which he could use his observational data, this was not a group task.

Each group gave an oral report, followed by class discussion. In each case, the discussion focused not only on the child but also on the insights, feelings, and viewpoints of the observers, and their answers to the role of the physician.

Excerpts from a sample group summary illustrating a team's use of observation, teacher conference, and their own hypotheses concerning a child, follow:

Betty is female, age 10, weighs 85 pounds, is 4 ft. 10 inches tall. She is in the fifth grade. She is rather well-developed for her age, with a slight excess deposition of fat. Signs of breast development are present; no visible acne is present. Her coordination appears normal for her age as does her level of energy expenditure.

Betty's close peers are limited in number. She maintains an aloofness and independence and is more often on the receiving end of interactions than on the giving end. She displays neither leadership nor the willingness to take a very active part in any group activity. She *occasionally* takes part in playful activities with other children, but these interactions are rather limited as compared with other children in the class. During one observation period the class was preparing a math exercise to hand in. Betty was busily engaged getting the answers from a girl at her table. At another time, the class was working in groups of four or five, preparing a science experiment. Betty showed little interest and contributed nothing to the group effort.

With figures of authority, Betty assumes a very proper attitude, bordering on submissiveness. It appears to all observers that she is accustomed to dealing with this type of situation most likely in her home. However, she shows a passive hostility that at times becomes active and initiates aggressive action. At times during the class period, the teacher walks around to the different desks, giving encouragement and assistance, where needed. During one such period, the teacher stopped at Betty's desk to ask her a question. Betty answered it and the teacher turned to go on to the next desk. As soon as the teacher's back was turned, Betty turned to her and stuck out her tongue. This was evidently not done to show off, as it passed unnoticed by the girls at her table. When Betty goes to

the teacher's desk to ask for something, she is very proper and correct, standing erect with hands behind her back. When she is at her desk and the teacher approaches, she immediately straightens up and becomes apprehensive, as if expecting something to happen. Conversations with the teacher revealed that Betty takes criticism from her mother, but can't take it from her father. Her mother feels that Betty is an obedient child who goes to bed on time and arises when called, but lacks self-confidence.

One striking feature all observers note about Betty is her personal neatness and her meticulous care of material objects. She is very well-groomed and dressed and attempts to keep herself that way. Her neatness in school is apparently a carry-over from home as shown by written comments of her mother in Betty's school file.

When observing Betty for any length of time, one could not help but notice her general *lack of interest*. We will not try to delve into any causal factors (but it will suffice to say here) that this lack of interest was probably the most outstanding personality constellation we noticed. Most of her class time was spent daydreaming with her thumb in her mouth. At times she played with her necklace or hair . . . with her thumb in her mouth. Her attention span appears rather limited, and only on rare occasions did she enthusiastically join in with class activities. Her mother also wrote that Betty "gets along with everyone well, but that it is easy to hurt her." Also "getting along with people is her special talent." Is this projection on the mother's part or is non-interaction considered "getting along well?" The mother also comments that Betty needs more self-confidence. Betty's mother is evidently a social-conscious woman who is projecting this onto her child in manner of action and dress.

Betty is evidently not well adjusted to her surroundings. The reasons for this are multiple, but the basic fault probably lies in the inability of her parents to understand and effectively deal with her. Assuming that the intelligence test scores are reliable, Betty obviously has an average natural intellect, but has not learned how to use it to its full advantage. She definitely is retarded in her school work. If therapy were advised in this case, it should follow this course. The parents are the key to the situation. They must understand their shortcomings in dealing with Betty and try to show more interest in her in a less authoritarian manner. Betty's interests should be developed and encouraged so that she will want to take a more active part in group activities. She could probably use the services of a tutor to bring her up to the level of the class in reading and math. She has much to learn about getting along socially with others her own age, but these will be learned with greater ease when her level of self-confidence is raised.

Betty does not represent a serious case of maladjustment, but here we can see in embryonic form, the personality problems that will make her future happiness and adjustment difficult.

It will be noted how much judgment and opinion are contained in the above report. Other groups did little of this but followed the six items in a more objective fashion. This group used the term "therapy"; other groups did not. Each developed its own style, and went as far as its own members saw fit.

DISCUSSION

As this procedure is reviewed, several questions become apparent: Why normal children? Why a school setting? Why teams of observers? We are using this approach because it enables the medical student to see the great variability of behavior under the term "normal"; it enables him to see the individuality of the so-called "typical" child; it enables him to understand the developmental sequence of behavior, and to see that each child's behavior reflects his own particular organization of his world. Observation in a school setting is ideal to demonstrate the above; it also enables the student to grasp the role of interpersonal relations in shaping behavior. He can see a vivid demonstration of both dominant-submissive, teacher-pupil types of relationships and egalitarian relationships among peers. He can also observe the dynamics of the peer society in operation within the adult-structured classroom. In discussions, he often becomes acutely aware of the essential similarity of this peer world and his

own peer world of medical students.

Another reason for selecting as our laboratory the school and the normal child was to remove the anxiety and responsibility involved in a clinic or home setting. Crow's study (2) of senior medical students demonstrated that mere experience with patients decreased ability to infer accurately about an individual. The procedure described, in which the experience is without personal responsibility, in which training in observation is given, in which theory becomes explicit in the process, in which the student learns that he is really a participant in the observing process, with his own needs and feelings involved, should increase his awareness of the personality of the other. Our students have no responsibility for the child, no interaction directly with him. They observe him from "across a crowded room," but he remains a stranger. This has its disadvantages from a psychiatric point of view, but we believe the advantages of this "test-tube" approach for beginning students to be worth the cost. The students are not free of anxiety; but they, because of the team approach, can handle that which is present. They are concerned with the validity of their inferences about behavior, but they are safe in that mistakes cannot hurt the child. Therefore, they are better prepared as they move into interviewing technique in the second year.

The team approach is designed to make the students aware of their own perceptual distortions. They soon discover that four observers write four different "objective" reports, each observer being sensitized to different behaviors. When they are confronted in the group discussion session with the task of writing a thorough, objective, detailed report of just what occurs in the classroom, they begin to be aware of what contributions their own distinct personalities make in their observations. With training and direction, most can learn to describe objectively what they see, but all recognize that what they see is not completely representative of what there is to see. The Cantril (1) studies of perception clearly illustrate the role of individual dynamics in interpersonal perception. Our students experience this problem directly and personally in the laboratory setting.

The team approach has a second impact when the students are required to write a group statement about the child's behavior. This transcends reporting behavior, and requires organizing, inferring, concluding. At each step in the process, these students face conflict situations in which, while they may agree as to the actual behavior of the child, they each interpret that behavior in a different fashion. They come to recognize that each of them has a theory of motivation, perhaps mostly unconscious, which guides their interpretation of the actions of others. Through this team approach, these theories must be stated, defended, and compromised. Along with their observation experience there are readings and discussions of theory, so that they can develop a new, more conscious personal theory of behavior. They come to recognize that all behavior has meaning, that neither they nor the children do anything purely by "chance."

SUMMARY

The observation laboratory experiences in the first-year "Introduction to Medicine" course has been described. The study of the behavior of normal children in a school setting has been illustrated. The various procedures used and the rationale behind these procedures have been presented in detail. In addition, some evaluations of the experience have been attempted.

In general, we believe that our 3-year experience with these observations has demonstrated the validity of this approach. Students have learned to become more objective in viewing human behavior, they have learned to apply the scientific approach to behavior, and they developed more sensitivity into the meaning of the behavior of children.

In conjunction with and integrated into

the variety of experiences provided in the course, we believe these observations to be highly successful. We plan to continue this approach to the study of behavior and development.

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Role-Playing as a Technique for Teaching Medical Students*

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The practice of medicine today requires that the physician have an understanding of the personality dynamics of his patients and his patients' families. The general practitioner and the nonpsychiatric specialist see many patients with psychosomatic and psychologic disorders, as well as normal patients whose personality structures must be comprehended even in the provision of effective physical treatment. One cannot treat the disease apart from the person who is ill with it. A heart attack, a physical injury, or even a minor operation, is fraught with personal meanings which need to be reckoned with in the treatment process. Therefore, medical training usually includes some course work in what may be called human development, human behavior, or human ecology. This paper presents a discussion of a technique used during one part of such a course for freshman medical students at the University of Florida (1).

BACKGROUND

The first-year "Introduction to Medicine" course was designed to provide the medical student not only with understandings of normal human development but also laboratory experience and training in the observation of the normal behavior of school children of various ages, and analysis of utilizing this behavior, knowledge of the physical, psychological, and cultural factors influencing development and behavior.[1]

As this course evolved, it became apparent that beginning medical students not only had little background in the behavioral sciences, but also had considerable resistance to acquiring such a background because they lacked appreciation of the relationship between these sciences and the practice of medicine. Consequently, techniques which focused upon the physicians' use of mental health concepts in dealing with patients were needed. The role-playing technique, used with success in educational and industrial leadership training,[2] was decided upon as our approach.

Role-playing, as we saw it, had three main purposes: (*a*) to give the students a vivid experience as a way of highlighting the laboratory and lecture material; (*b*) to enable them to begin to appreciate the interpersonal relationships and mental health

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[1] We are indebted to the P. K. Yonge Laboratory School of the University of Florida for its unstinting use of its facilities, in enabling medical students to observe behavior. The Alachua County Schools also provided assistance in 1956–1957.

[2] For example, see C. Hendry, R. Lippitt, and A. Zander, Reality Practice as Educational Method, *Psychodrama Monographs*, N.Y.: Beacon House, 1944; I. Gordon, Workshop Techniques in Action, *J. Am. Dietetic Assoc.*, 1951; H. Jennings, Sociodrama as Educative Process, *in:* Fostering Mental Health in Our Schools, Washington, D.C.: *ASCD Yearbook*, 1950.

factors involved in the practice of medicine; and (*c*) to involve them in an emotional experience so that they might become more aware of their own personalities.

COURSE DESCRIPTION

Before discussing the role-playing procedure used, a brief description of the course seems in order. The first semester of the course consisted of six 2-hour sessions in statistics, a series of scanning observations of physical growth and development in the laboratory school, and several lecture-demonstrations on physical development. The second semester began with seven 4-hour periods, which included six 2-hour observations in the school, and six 1¾-hour seminars. Thus, the students had spent 12 hours in observation of an individual child and had spent an equal time in small group seminar discussions. The seminars were concerned both with personality theory and with analysis of individual behavior.[3]

In the 8th week the teams of medical student observers had prepared and presented to the class reports on the children studied, and in the 9th week each student had written a paper on personality theory. The role-playing experience began in the 10th week of the semester and continued to the 15th week. There had been no previous lectures on personality development, although the students had read Hall and Lindsey, *Theories of Personality*, and had discussed personality in the seminars. Role-playing had been used as a technique in the 10th week of the second semester, as part of the students' preparation for the observations. During that session, they had watched a group of fellow students enact a scene in a doctor's waiting room and had attempted merely to record objectively what they saw. No analysis or discussion of the personalities of the role-players had been attempted.

[3] Seminar leaders, representing an interdisciplinary approach, were, in addition to the authors, William Stead, M.D., Associate Professor of Medicine, Dorothy S. Laird, Ph.D., Associate Professor of Education and Robert Glen, M.D., Assistant Professor of Psychiatry.

PROCEDURE

Structure

Time.—The last 6 weeks of the course, the class met in a 4-hour block of time once a week. The first hour consisted of a lecture on a particular developmental period, i.e., infancy, early childhood, up through old age. This lecture was followed by a role-playing session of about 10 minutes' duration and an hour class discussion of the role-playing. The remaining time was spent in small group seminar discussions dealing with the problems and concerns generated by the previous experiences. There were in total five role-playing sessions.

Selection of role-players.—The class consisted of 47 students, 44 male and 3 female. A total of ten men and three women were used. The three women all were assigned to "wife and mother" roles, five of the men were "physicians," three of the men were "husband and father," and two were "patients." All the men were chosen at random, but the need for women necessitated the selection of each of the female students.

Situations.—Each role-playing session took place in front of the class, and was supposed to be in the "doctor's office," with the "physician" talking with his "patients." The situations were:

1. Parents of a 6-month-old boy concerned about his eating difficulties. Conflict between parents about their roles. The mother was a vague and emotional person; the father was incisive and unemotional.

2. Parents of a 2-year-old boy concerned about his toilet training. Conflict between parents about their roles. The mother was a rigid, compulsive immigrant; the father was an impulsive person.

3. Parents of a 6-year-old boy with asthma. The mother was an over-protective, dominating person; the father was concerned with intellectual achievement.

4. An adolescent boy greatly overconcerned with acne and showing withdrawal tendencies.

5. A 48-year-old, highly successful and active businessman, about to be released

from the hospital after a heart attack, and rejecting modification of his life pattern.

Instructions to participants.—Each of the role-players was assigned a particular pattern of behavior and thought which he was to maintain. In the case of the first "physician," this was purposely made ambiguous, so that he would have to depict a pediatrician strictly from his own conceptions. The "pediatrician" the second week was instructed to be essentially "nondirective," that is, he was not to diagnose and prescribe, but merely to act as a catalyst for the parents, so that they could act and depict their feelings about the child and each other Each week, the "physician" was given similar instructions, until, in the last session, he was told to try to enable the patient to accept his changed situation.

Similarly, the "parents" or the "patients" were given instructions that did not tell them what to say, or how to act, but did give them a general position to take. For example, the second "mother" was told to be a rather rigid person, a stickler for cleanliness, precise and orderly. She was to feel that she received little help from her husband in imposing her expectations on the child. The husband was instructed to be an impulsive person, not concerned with forcing the child, who perceived the child's behavior as "all right," and who didn't see much sense in the whole situation. The child's behavior was to come out in the interview with the parents as "messing and smearing," and not following his mother's routine. Except for the first role-players, who were briefed "on the spot," each player knew at least what broad role he was to play ahead of time, although specific instructions were often last-minute.

The audience was also instructed. For example, prior to witnessing the second session, they were told to be prepared to answer such questions as:

1. What are the dynamics which you think created this problem for the boy? Why does he behave as he does?

2. What do you think might have been involved in the early childhood experiences of the father that make him the sort of father he is?

3. What do you think might have been involved in the early childhood experiences of the mother that make her the sort of mother she is?

4. What would you do as the pediatrician? How would you handle the situation?

It will be noted that the instructions related the information about personality derived from the lectures to some clinical application. The role-playing itself was an emotional experience not only for the players but also for the audience.

Staff roles.—In addition to briefing the players, the discussion leader's role was to raise questions, clarify and interpret students' remarks, and summarize occasionally during the session. He attempted to involve as many students as possible in the discussion, and to stimulate thought by occasionally "taking a stand." The other staff members present served as resource people of whom the group could ask a specific question. They also could participate as they wished in the discussion.

Students' role.—The students themselves were mainly responsible for thinking and commenting about what they had seen. In this way, they were forced to reflect not only upon the didactic material and the role-playing incident, but also upon their own life experiences.

DESCRIPTION OF A ROLE-PLAYING INCIDENT

It is impossible in print to give the "flavor" of the role-playing, but the following description of the last session may serve to illustrate. The instructions to the role players were:

The role-playing experience will concern a patient who is being treated for myocardial infarction. The patient is a 48-year-old executive, who is being mobilized in the course of treatment of severe anterior wall myocardial infarction. He is currently receiving anticoagulant therapy, which he will continue to receive for many months. Until this time in his life, the patient has been active, aggressive, and energetic, taking extreme satisfaction out of his

ability to work long hours and engage in vigorous physical activities. His contributions to his business, his family, and his friends, have been marked by physical and monetary contributions, devoid of affective warmth. The physician will review with the patient his future plans.

The student "physician" attempted to inform the "patient" that he must slow down, that he could not continue his current pace. He tried to explore the patient's attitudes toward work and toward his family. At every turn he was rebuffed by the patient, who maintained a rigid position of rejection of all suggestions that his life would be different now. He kept insisting that he had worked hard all his life and could see no need for change. The "physician," after 10 minutes of frustration, ended the role-playing with: "I can't handle this guy!"

The class discussion of the role-playing centered around suggestions to the physician. These ranged from laying it on the line to trying to be compatible toward him. The significant aspect of the discussion, however, is the extent to which it revealed the knowledge of personality dynamics and the concern over interpersonal factors in the doctor-patient relationship. For example, several comments dealt with the nature of defense mechanisms used by the patient. One student commented that the patient's high work output itself was a compensatory mechanism to make up for the love and affection that he might have wanted to get in his own home. The importance of knowing and using the patient's defenses rather than frontally attacking them was stressed by several students.

As an outcome of the discussion, and the frustration experienced by the "physician," several of the staff members role-played, demonstrating how they might relate to such a difficult person. This was met with great enthusiasm and much involvement on the part of the students. Their techniques varied from autocratic advice to "nondirective" acceptance. These role-players were not much more successful than the student "physician."

Many of the role-players' remarks were greeted with laughter. It may be hypothesized that the laughter is indicative of additional relatedness possible through the use of peers in the role-playing situation or anxiety produced by such a demonstration of one's future professional role.

A study of the tape recording shows that the students were using concepts about defenses, about family factors which contribute to personality, and about differing types of doctor-patient relationships. This is fairly typical of the role-playing discussions.

DISCUSSION

Student evaluation.—Student comments were elicited in the seminars, and some of their comments were incorporated into the procedure. They felt the large discussion for over an hour was too long, and that more time should be allotted to the seminars. The large group provided for variety of solutions, but seminars could do better at resolving issues.

They felt the role-players needed more notice so that they could think in advance. This practice was initiated beginning with the second session.

The notion of role-playing itself was not fully accepted by the students after the first session. Some felt that movies or regular actors would be better than classmates, because it was difficult for the audience to separate the role from the person as they knew him. They later realized that this in itself was a part of the role-playing process that increased its value to both the player and the watcher.

Protocol evaluation.—Analysis of tape recordings show much utilization of concepts presented in the lecture and previous readings. There was anxiety expressed concerning the use of the physician's time, and the medical staff members served as resource people in answering this. There was also a need to delineate between the role of the psychiatrist and that of the nonpsychiatric physician. As the course progressed, there was a trend toward seeing the role of the physician a little differently than the stu-

dents had previously perceived it. Finally, the recordings clearly reveal the high degree of personal involvement reached through this technique.

In summary, there are five major benefits that the use of role-playing, as described above, has for a course in human development in medical college.

1. The role-playing technique clearly involves the students in a problem in a way that is alive, stimulating and emotion-producing. It allows for demonstration of their own peer group experiences, as in the Smith-Jones private joke. It provides for a high degree of large group participation focused on a shared event, followed by resolution in the small group.

2. The role-playing discussion technique provides for immediate feedback of their ideas and feelings provoked by the leader. Not only is there a feedback of their ideas from lectures, reading, and laboratory experiences to the role-playing, but also there is an immediate feedback of reactions to their comments by their peers and the resource people. A current principle in learning theory indicates that the more immediate the feedback, the more learning.

3. Information is fed into the group by the resource people at times and in ways that make it immediately usable by the group. The students are able to see it as important and useful information because it enables them to solve a problem that the whole class is attempting to solve. The resource person's role, although slight in terms of time, is highly important and valuable because of the timing of his participation. A 3-minute comment during the discussion may be worth more than a 30-minute presentation that the students do not perceive as related to them as future physicians.

4. The role-playing technique provides for release of students' feelings and "clears the air" of some of the tensions presented in medical students. The laughter, often at times which were not humorous to the staff, is indicative of this tension-releasing function.

5. This technique is highly useful in breaking down student resistance to a course such as human development or human relations. It forces them to relate to each other in new ways and to see the value of such a course in medical education. Since resistance was one of our handicaps, the role-playing was most successful in enabling us to break down the barrier.

SUMMARY

This paper has described the role-playing technique as used as one phase of an integrated approach to human development in the first year of medical college. The mechanisms and the role-playing process itself have been described, and a sample protocol is given. A discussion of the usefulness of this technique has been presented.

This paper shows how this technique can be used in large classes in undergraduate medical education. It can be adapted in many ways to suit the faculty's purposes. It is a highly flexible technique. It is much more valuable than a film approach, because of the high degree of peer involvement evoked.

This technique successfully met the purposes of overcoming students' resistance, sharpening their understanding of didactic material, and demonstrating an application to the practice of medicine. We plan to continue this approach as one of the ways of educating medical students in human behavior and development.

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MEDICAL EDUCATION FORUM

Editorials

CRUMBLING WALLS

At a recent Ciba symposium, medical scientists from both sides of the Atlantic commented on the crumbling of the walls which once divided the basic and clinical science departments in this country. We are intrigued by the possible reasons for the cracking of this dichotomy of the medical Maginot Line. The historic Maginot Line crumbled because the defenders were ill prepared for the tactics of the attackers. Perhaps the M.D.s who manned the bastions of the basic sciences for so many years were equally surprised by the skilled onslaughts of the new basic-clinical scientist.

Undoubtedly, one cause for the crumble is the increasing number of clinical teachers with extensive basic science experience. This is too obvious to deserve further comment.

At the same time, the basic science departments must be communicating more effectively than formerly with the clinical scientists. The surprising factor is that this is occurring at a time when many educators are bemoaning the fact that the basic science departments are unable to recruit M.D.s and must rely on Ph.D.s.

Perhaps the Ph.D. has a broader contribution to make in a basic medical science department than the M.D. It would appear that he is able to work more effectively with the clinician—if the walls are indeed crumbling, this must be true. However, many of our readers obviously disagree with this premise. Let's have an argument! Do you agree?

JOHN Z. BOWERS, M.D.

IS E.C.F.M.G. ENOUGH?

In a recent Editorial we noted the important role that E.C.F.M.G. is playing in screening foreign graduates who desire educational opportunities in the United States. At the same time, the development of E.C.F.M.G. has brought into sharper focus other problems relating to the foreign graduate.

Several factors, at times overlooked, must be considered in regard to the foreign graduate. Thus far our major and proper concern has been with inferior training. However, before medical education in the U.S.A. began its relatively recent meteoric rise, there were a number of excellent foreign medical schools, especially in Europe and Great Britain. It is also important to realize that rapid progress in medical education has not been restricted to the United States. Reform in medical education is indeed a global effort. In Latin America and Asia, new schools have opened, and old schools have reformed. Naturally the physicians graduating from these schools feel that they have a destiny in the world of medical education.

The number of foreign graduates seeking an educational appointment in the United States has increased. Some have been carefully chosen by philanthropic agencies or I.C.A. and are destined for academic careers. Others come for internships or residencies for which they are well qualified. A third group, and unfortunately the largest, seek training opportunities for which they are poorly qualified. This latter group is the primary concern of E.C.F.M.G. We must also be concerned about the well qualified foreign graduate.

There should be a positive program to assure that the best possible educational opportunities are available to the increasing number of well trained foreign physicians seeking such appointments. The program might include a placement bureau to handle the assignment of this group of foreign graduates to good internships or residencies.

An orientation program of 3 weeks to 1 month would allow the more rapid assumption of full patient responsibility by the foreign graduate when he begins his hospital appointment. The W. K. Kellogg Foundation has successfully operated a similar program for a number of years.

At the completion of the house officership there should be evaluation reports from the hospital and from the foreign graduate.

Representatives of the A.A.M.C., A.M.A., A.H.A., E.C.F.M.G., and the philanthropic foundations with overseas programs should meet to consider what is needed beyond E.C.F.M.G.

E.C.F.M.G. is fine—but it is not enough.

JOHN Z. BOWERS, M.D.

THE A.A.M.C. MAKES PROGRESS IN COMMUNICATIONS

At the 1959 Annual Meeting of the A.A.M.C., concern was expressed about relations between the pharmaceutical manufacturers and the medical schools. The immediate outcome of this was a suggestion from the Pharmaceutical Manufacturers Association that a top-level liaison committee be formed to review the entire question of pharmaceutical company-medical school relationships. This committee, made up of three pharmaceutical manufacturing company presidents and the A.A.M.C. Administrative Committee, has held many meetings. Out of these meetings have come three significant developments. First, it was agreed that there existed an inescapable area of common interest and concern between the manufacturing industry and medical education. Second, the setting-up of a special task force was suggested, made up of medical faculty and pharmaceutical company medical directors, with a dean as chairman, which is to identify, study, and recommend approaches to the components that make up this common area of interest and concern. Third, in order to provide leadership regarding some of the immediate questions of concern, the statement which appears below was developed. It must be pointed out that, while the statement has been accepted by both the P.M.A. Board of Directors and the A.A.M.C. Institutional Membership, it is not to be taken as either complete or final. Suggestions for additions and changes will be welcomed. The top-level A.A.M.C.-P.M.A. liaison committee will continue to meet at frequent intervals so that these suggestions can be given prompt consideration.

Statement.—It is desirable that medical education be furthered to the greatest possible degree by the pharmaceutical industry. Such a furtherance is of great importance and in the best interest of the American public and the medical profession. It is essential that efforts of the industry in

furthering medical education follow the highest of standards and to that end the following general principles are established by the Pharmaceutical Manufacturers Association and the Association of American Medical Colleges for the guidance of all concerned.

Surveys of medical students of questionnaire or other form, made by the industry or members thereof, rarely result in the furtherance of medical education. The Association of American Medical Colleges is available for consideration of exceptions to this general statement and should be consulted to determine whether an exceptional survey is in keeping with these general principles.

Non-educational entertainment (such as cocktail parties, steak dinners, etc.) does not further medical education, and such entertainment should not be requested by students or faculty or suggested by members of the industry.

Awards and prizes: Funds or other awards intended as recognition of a high order of scholarship or of research achievement of students or faculty members are an effective means of furthering medical education. The interest of the recipient is best served through his uninfluenced selection by his medical school and by the omission of photographs or press releases by the donor.

Lectures at institutes of learning, established by members of the pharmaceutical industry, constitute a means of bringing special information to medical students and therefore are of value in medical education. *The final choice* of individual speakers should be made by the medical school concerned in the interest of providing the best possible source of information on a specific subject.

Visits to pharmaceutical laboratories constitute a source of medical education which is not available in medical colleges. The visits are therefore considered worth-while, but the general principles regarding entertainment (except for necessary meals), printed literature, and drug samples should apply to the occasion of such visits.

The release of information regarding research products prior to their acceptance by the medical profession is not in the best interest of the American public. Such releases are discussed in the "Statement of Principles of Ethical Drug Promotion," adopted by the P.M.A., May 24, 1958. Because of this general principle, press releases on unestablished drugs should not be made by members of the industry or by medical colleges. In addition, press releases on established drugs when students or faculty members of a medical college are involved, should follow the established practices of the medical college concerned.

Television or radio productions involving medical colleges, or research efforts in such colleges, should be invariably presented in a way that the greatest possible degree of medical education is obtained from the production. Unnecessary dramatization or other accent of material which does not provide educational information is discouraged and to be avoided.

Printed literature of pharmaceutical manufacturers is frequently of considerable value in medical education. The use of educational literature by students is encouraged, but the interest of the student is best served by its distribution through a qualified official of the medical school concerned.

Drug specimens are an important part of the education of a medical student. However, it is illegal for a student to receive prescription drugs for other than study purposes, which study should be conducted in his formal class sessions. For this reason, prescription drug samples should be made available for use by students only through a qualified official of the medical college concerned.

The above paragraphs cover subjects which are representative of certain specific undesirable practices, although the list is by no means exhaustive. In general, as a basic guiding principle, both the medical educators and the leaders of the pharmaceutical industry can agree that any act, practice, or policy which tends to result in the exploitation of the medical school, educator, or student for commercial or selfish consideration is undesirable. Therefore, there can be no furthering of such acts, practices, or policies by anyone who is truly interested in the future health and strength of medical education.

Additions to or modification of these general principles should result from continuing conference between designated members of the two associations concerned.

Datagrams*

THE MEDICAL STUDENT, HIS FAMILY, AND HIS COSTS OF MEDICAL EDUCATION

The "Datagrams" (Vol. 35, No. 3 [March, 1960]) which discussed medical student finances indicated that the average cost to the student of four years of medical school, as experienced by the 1959 graduating class, was $11,642, or $2,911 per year. Recent findings in the same study indicate that the individual student and his family are paying the largest portion of these costs, with only minor assistance from outside agencies. Gifts and loans from parents, relatives, and/or in-laws and the student's or his wife's earnings provide 82 per cent of all financial resources available to the student. Agencies outside the family, such as the medical school, local banks, federal and state governments, provide the remaining 18 per cent of financial resources.

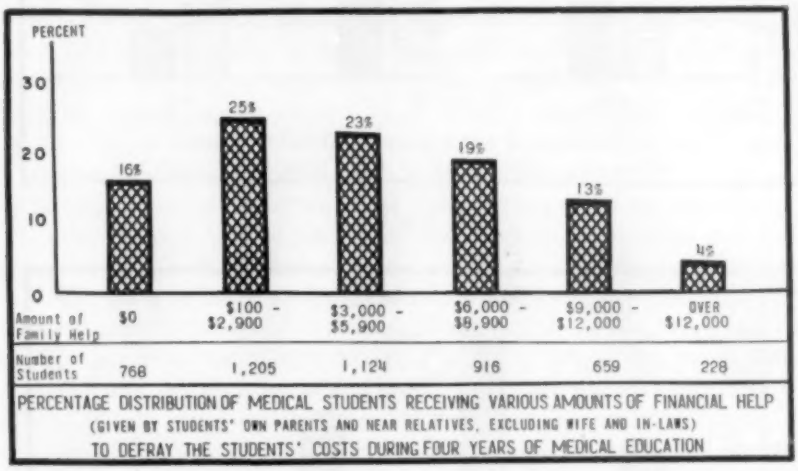

FIG. 1

The data on various amounts of financial help given by the student's own parents or relatives (excluding wife and in-laws) through gifts and/or loans are summarized in Figure 1.

Special attention needs to be given to the facts that 16 per cent of the 1959 graduating class of medical students received no help from their families, while 36 per cent received $6,000 or more.

One of the basic factors which allows the medical students' families to give them financial help is the level of parental income. The data on the income of the parents of the 1959 graduating class members are summarized in Figure 2. These data are compared with published census data on the United States average of white urban families in 1957.

The data in Figure 2 indicate clearly that there is a much smaller proportion of medical students from lower-income-group families and, conversely, a much larger proportion of medical students from families with income of $10,000 or more than the proportion of such families in the United States population. An integration of the data in Figures 1 and 2

* Submitted by the Division of Operational Studies of the AAMC. Source of information will be furnished on request.

unequivocally demonstrates that lower-income families simply cannot provide the amounts of money needed by the student to pay for the costs of his medical education.

One method which students use to substitute for or supplement financial aid from their families is to earn money to pay their bills by work during summer vacation and the academic year. The data on student earnings applied to the costs of medical education by the students in the 1959 graduating class are summarized in Figure 3.

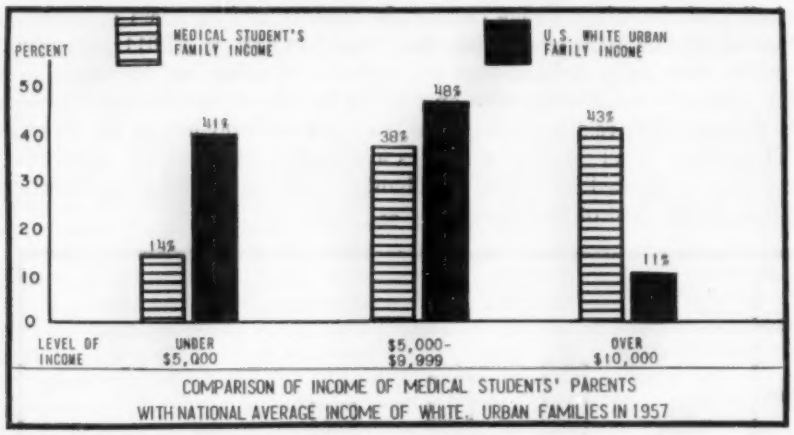

FIG. 2

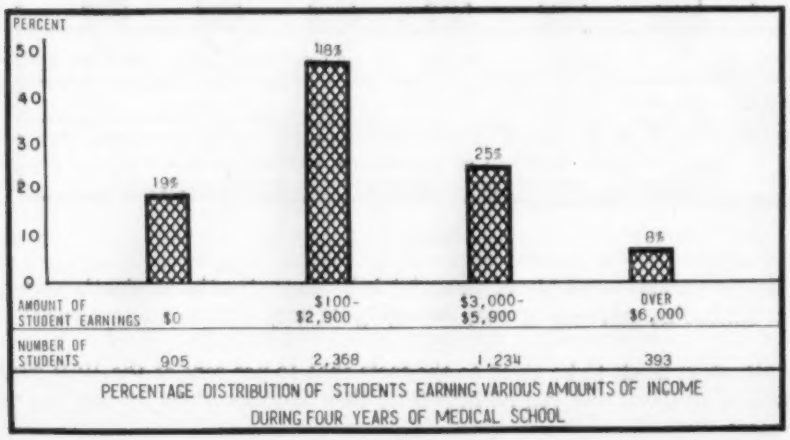

FIG. 3

The data in the tables above clearly indicate that there is a need for a positive program of financial assistance to medical students. First, if we are to reach our goal of increasing the number of physicians to meet the nation's health needs, we must draw upon a broader socioeconomic base within the population. To do this, financial assistance is necessary. Second, current medical students in order to pay their bills must frequently engage in work which has nothing to do with medical education. Increased financial assistance would allow the elimination of the unproductive work which is currently being carried on at the expense of the fullest realization of the intended educational experience.

Address

A UNIVERSITY IS AN INSTITUTION THAT HAS TROUBLE WITH ITS MEDICAL SCHOOL*

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It is an honor to address you today, and I am very happy that your Organizing Secretary asked me to talk about trends in medical education in the United States and not about trends in India. I must emphasize that my remarks concern *some* trends in medical education in a *few* schools in the United States; they do not reflect the situation in *all* American medical schools. Since I have been in India only 5 months, I know only a little of the situation in the medical colleges here. Therefore, these remarks about a few unnamed medical schools do not necessarily apply to colleges of medicine in India. If anyone thinks the shoe fits—it's purely coincidental.

A brief history of medical education in the United States might serve as a proper background. It might surprise you to learn that modern medical education as it now exists in most medical schools in the United States is only a scarce 50 years old. About 1910 Abraham Flexner, a member of an American family well known in education circles, went out on a tour of medical schools of the United States to find out why there were such vast numbers of incompetent, uneducated men practicing medicine. (This was a half-century ago.) He found that the majority of the medical schools were mere proprietary schools and that medical education was chiefly in the hands of commercial entrepreneurs. Most of these so-called medical schools (even those that claimed affiliation with respected Universities) managed their own affairs, segregated and divided fees, disposed of professorships, and were independent of any control by the University with which they were legally bound. Even the Universities, particularly those that annexed schools to give an appearance of "educational completeness," were not without blame. They did little, or nothing, to set scholastic standards, to control the finances of the schools, or to keep the teaching hospitals under educational control (in those rare schools where hospitals were used for teaching). And, very important, admissions standards were such that many medical schools had a student body composed of "crude boys and jaded clerks, who found themselves adrift at a vacant moment. . . ." and so would enroll in a school whose curriculum would not interfere with seeding, harvesting, or milking. At that time only a few (about sixteen of the 155 medical schools existing then) had admissions requirements involving 2 or more years of college work. As a result of this situation a wave of commercial exploitation swept the medical Profession.

* Address delivered before the Tenth Annual Meeting of the Madhya Pradesh Branch of the Indian Medical Association at Jabalpur on November 9, 1959.

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Most of the schools at that time were staffed by busy practitioners who were generally induced to join the "Faculty" by a financial consideration known as a "reflex" and who purchased "chairs" at varying prices depending upon their "reflex" value. Now this "reflex" should not be confused with a well known neurophysiological phenomenon—few of the faculty knew much about that. "Reflex" pertained to a system by which students referred paying patients to their professors. Such activity did not damage their chances of passing the professor's course.

As can be readily imagined, a faculty composed of such men had little time and less interest in research and teaching; and, when they did discharge the latter responsibility, they did so through methods of instruction that were mainly didactic, since laboratory courses were virtually unknown in the basic sciences. Contact between teacher and student was almost completely nonexistent. In short, the situation that existed in medical teaching and practice in the United States 50 years ago was so bad that it was small wonder, as a well known Baltimore newspaper man recently remarked, that most of the citizens had more confidence in commercial patent medicines than in the doctor down the street.

During the decade that followed the Flexner Report there was a virtual slaughter of medical schools, especially of the bad sort. In the surviving schools scholastic standards were raised, and an applicant for admission not only had to have some intelligence to get in honestly—but also to get out honorably. The teaching of the scientific basis of modern medical practice got a toehold, and the didactic and empirical methods gave way to newer, more effective teaching procedures. Listening and memorizing moved over to make room for observing and doing. The transformation that occurred in the way of life of most medical schools was so radical and fundamental that the public was given a good chance, when selecting one of the more recently trained doctors, of getting one who was "at least aware of a few of the certainties of modern therapeutics . . ." and also of some of the probabilities. Life expectancy in the United States increased at a remarkable rate.

Associated with this transformation was a change in the caliber of the faculty of the schools of medicine, the principal impetus coming in 1913 when authorities at Johns Hopkins became convinced of the necessity of having a staff of teachers in the main clinical branches devoting their entire time to teaching and research and accepting no fees for professional services to private patients. This made Johns Hopkins the first medical school of the genuine University type. Soon a professor in clinical medicine became as respectable as a professor of classic literature at Harvard.

So much for the background. Today, once again, there is a noise in and about medical schools, but now it seems to come from a different source. This time it comes from the medical schools themselves, at least from an undetermined number of their faculties. The cause of the present rumble is difficult to determine. One gathers that something serious is wrong with medical education. To be sure, medical education today is not controlled by commercial entrepreneurs—at least not so crudely as in days past—so the complaints one hears are not in this area. Today our medical schools are chiefly in the hands of devoted, public spirited men. It happens that in some schools some of these public spirited men are Public Hygienists, in others, professors of the main clinical branches.

A word about Public Hygienists and professors of the main clinical branches. In the United States, as is probably the case in India too, Public Hygienists are of a special breed, a separate "community" so to speak. Sometimes they are referred to as medical educators. This is an understandable mistake. For the most part Public Hygienists are

moralists, a few are romantic busybodies, all of them are poets. On the other hand, professors of the main clinical branches usually come from more practical "communities." Generally, one finds few poets among them. Philosophically, they also differ from Public Hygienists, and in many regions caste lines between the two are so rigid that little social intercourse occurs. There are, however, some exceptions. For instance, it is known that in some areas a few professors of medicine (and even surgery) find a mutual meeting ground with a few Public Hygienists. This is an amazing union when it occurs. Its equivalent, in practical politics, is a united front between the Congress Party and the Muslim League. It should not be inferred from this remark that members of the Congress Party are similar to Public Hygienists—or Muslim Leaguers disgruntled surgeons.

In passing we must note that a number of politicians and other varieties of social scientists are also heard from, some very emphatically. There are also complaints from a few preclinical professors. This latter group will not be considered separately, since their complaints, even when explained, are difficult to understand. Also, preclinical professors generally have little to say about policy matters of the medical college.

The principal complaint from the professors of the clinical branches is the question of medical practice. They righteously maintain that, in order to remain effective teachers of clinical medicine, they must have the responsibility for the care of *private* patients—and the fees from the same. They maintain that there are two types of medical care for the sick; one which is modern, utilizing all the available scientific knowledge and amenities and is given to fee-paying patients. To satisfy the clinical professors some 80 of the 90 odd medical colleges in the United States have devised a unique full-time faculty appointment called the "geographical full time." In the past the full-time clinical professors were forced to travel from their departmental offices to their private offices to attend to their private patients. The new plan guarantees that at least geographically the professor is spending his time somewhere on the medical school campus.

A large number of Public Hygienists fear that medical education in the United States has turned its back on the moral order of the world. They charge that American physicians, as a class, are more deficient in cultural understanding and background than other professional classes. Since they naturally assume that their mere word is sufficient proof that such a state of affairs exists among American physicians, they come prepared with remedial measures. Briefly, they demand that these deficiencies in understanding the social and environmental factors in illness and rehabilitation (more poetically stated as the "humanistic values significant in our culture") be immediately corrected by such devices as lectures in human ecology and exercises in social service.

Like all assumptions that confuse the part with the whole this complaint is plainly too anemic to need serious refutation. Certainly there are in the medical profession, just as there are among politicians, individuals who possess the social awareness of a backward child of six. I am certain that even the strongest defenders of this faith will admit that some of our colleagues labor under a stupidity that would stagger a bullock. But there is no evidence that the frequency of such jackasses in medicine is any greater than in any other profession. To the contrary, a report from the Educational Testing Service at Princeton indicated that the performance of natural science majors on tests in the social science and even the humanities areas were not significantly different from the performance found for the social science majors on the same tests. Furthermore, the natural science majors performed only slightly lower than the humanity majors on tests in the humanities area.

And, as one would expect, the performance of the natural science majors was superior to both that of the social science and humanity majors on tests in the natural science areas. In other words, to use baseball jargon, the natural science major not only beat them in the home games but did equally as well when they were visiting. But since man has congenital ability of denying what is true and embracing what is false such data are conveniently overlooked.

The second part of their arguments is more difficult to handle, since it is emotional and belongs to those parcels of sweet beliefs so highly revered by schoolmistresses. To hold that such devices as lectures in human ecology, orientation courses, or exercises in the humanities and social science will remedy antisocial characteristics indicates a childlike belief in the occurrence of the improbable. It is impossible to believe that intelligent men can swallow such rubbish, but it is more difficult to try to change their feeding habits.

There is an understandable concern, particularly among politicians and social scientists, to get as many doctors trained as quickly as possible to do a job that is badly needed in many parts of the United States and more parts of India. Unfortunately, quantity, not quality, is their goal. Their principal arguments are "a badly trained doctor is better than no doctor at all" and that "better training will decrease production of doctors and that will do more harm than good." That they fail to distinguish between the responsibilities of doctors and the duties of ancillary medical personnel is a major weakness; but their arguments, of course, are full of bad logic and are of the kind that are vastly esteemed by specialists in dead ideas. Unfortunately, the hawkers of such organized nonsense are having their day again not only in the United States but elsewhere. The results (in the medical schools that have been intimidated by this group) are drastically lowered admissions standards and training programs that are insulting to the intelligence of male attendants of the sick.

There is a whole barrage of complaints regarding the curriculum itself; they come from all manner of people. For instance, there is a peculiar group in my country, quite difficult to classify, who are currently on the verge of hysterics and in sore need of tranquilizers. It appears that they are convinced that, since the Soviets are also turning out good doctors (and scientists), something must be radically wrong with our entire educational system. One can be fairly certain they will soon tire of this and go galloping after some other windmill.

More common is the complaint that "there is no integration between the clinical subjects and the preclinical basic sciences." A predominantly large number of this group are sentimentalists and have such slogans as, "education for the whole man," "medical care of the whole man," etc. They insist that integration can be best accomplished by breaking down departmental barriers and by doing away with specialists in the teaching faculties and replacing them with generalists. A favorite remedial device of theirs is to give the freshman medical student the responsibility of taking care of the health of a family before he learns the elementary facts of life. They hold that such schemes have the added value of giving the student an early introduction to family life. It is true, as most professors in a medical school will testify, that medical students also are of a peculiar breed. But even the most disenchanted professor will not admit that they were conceived through artificial parthenogenesis and subsequently raised to maturity in an incubator.

Associated with the group that complains of "lack of integration" is another which charges that, during the premedical training of the student, too much emphasis is placed on their scientific training (at the neglect of the humanities and the social sciences). They demand that a minimum of science and a maximum of the humanities be given. The bolder

ones maintain that during the 4 years in a medical school the student can get "all the science he needs."

If any of the proponents of the argument that the medical schools can teach "all the science the student needs" are, or claim to be, medical educators, one is forced to conclude that they must possess a congenital incapacity for realistic reasoning and the schools that have succumbed to this are coming down with a wasting disease, for they are showing all the signs of hyperglycemia and glycosuria. The medical sciences proper: anatomy, physiology, pathology, pharmacology, biochemistry, already jam the first 2 years of the curriculum. Today, to adequately teach these subjects it must be taken for granted that the student already has proper training in the more fundamental sciences of biology, physics, chemistry, and mathematics. In 1910, at the time of the Flexner Report (when scientific medicine was just being weaned), there was little opportunity to include within the medical school curriculum those preliminary subjects upon which it presumes. Even then such subjects could only be included at the sacrifice of some essential part of the curriculum, and as Flexner pointed out for every sacrifice in the medical curriculum it was certain that some future patient would pay. This was a situation 50 years ago; and today, in the face of the tremendous advances in medicine and its basic sciences—advances that require great technical knowledge and skills—there are those who advocate admissions standards that will permit students to enter medical schools so ill prepared in the preliminary subjects of science that in order to have them acquire in time even an elementary understanding of the basic medical subjects the schools must hire a staff of sorcerers, not teachers.

Although some of the complainants find some areas of disagreement regarding the illnesses of medical education, all of them, irrespective of the communities they belong to, are in accord that the best therapy for the ailing schools is new and grander buildings, expensive and complicated scientific equipment and other facilities that are better than the students and the faculties.

Countries that want the best medical care modern science can offer must see to it that the highest educational standards are maintained in the medical schools. There is a time-tested way to be reasonably certain that such standards will be maintained: hire good professors who are devoted to their subject but are constantly sniffing suspiciously in its dark corners. Then give them some chalk and a blackboard. There is also a good way in which a faculty of a medical school can examine the standards of the school and determine whether admissions requirements and levels of teaching are keeping pace with the developments in the medical sciences. It is best described by a story that has now become a legend:

Once upon a time Doctor Welch, the first Dean of the Johns Hopkins Medical School, called a meeting of his faculty for the purpose of setting the admissions requirements for the new medical school. After the group had finished their deliberations and finally drew up the standards that were to guide Hopkins for the next few decades, one of the professors stood up and said, "Well, Gentlemen, we are certainly lucky to be here as professors for I am sure none of us could qualify for admission as students."

That's the way it should be.

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Report

"WHAT DO THEY DO?"

DOUGLAS GORDON
Dept. of Social and Preventive Medicine, University of Queensland, Australia

INTRODUCTION

The University of Queensland (Australia), which has now been in existence for 50 years, established its Faculty of Medicine in 1936. The first graduates from this Medical School qualified in 1940.

This survey, done in June, 1958, has tried to discover the careers chosen by the medical graduates who successfully passed out of the School in the 10 years 1940–49, inclusive, i.e., of the first 10 years' output. From 1940 to 1948 the average annual number of graduates was 30; but in 1949 the first graduates arising from the post-war influx of ex-servicemen appeared to the extent of 61. The total graduates, therefore, for the 10-year period were 331.

At the time of the survey this had been reduced to 310 in actual practice, for the following reasons:

Deaths	7
Males left medical practice	2
Married women not practicing	12
	21

It was not perhaps wise in 1958 to inquire into the professional niche finally chosen by a graduate of 1949. A number of graduates in this last year studied (1949) gave signs of being still unsettled. Nor can it be assumed from these data that the trends shown will continue, since these graduates emerged into a society full of change due to the war years and into a State which, owing to the lack heretofore of any form of medical training, probably suffered from a slight dearth of medical practitioners.

RESULTS OF SURVEY

Qualifications	Total
Number with graduating degree only	204 (27)*
Number with additional postgraduate qualification obtained since graduating	127 (9)*
Total:	331

(The specialist qualifications were made up as follows:
Surgery, 26; orthopedics, 8; ophthalmology, 11; urology, 1; obstetrics, 7; E.N.T., 4; anesthesia, 5; radiology, diagnostic, 6; radiology, therapeutic, 3; medicine, 15; public health, 3; physiology, 2; pediatrics, 15; dermatology, 1; psychiatry, 8; pathology, 10; bacteriology, 2)

Present form of practice	No.
Number in general practice	162 (6)*
" " specialist clinical practice	100 (12)*
" " Hospital practice (full-time)	31 (3)*
" " University and Research	9
" " Preventive Medicine	3 (1)*
Miscellaneous	5
Total:	310

Place of Practice

Queensland—capital city, 162 (12)*; rest of Queensland, 82; rest of Australia and New Zealand, 46 (7)*; overseas, 20 (3).*

Present method of remuneration

Salaried, 62 (8)*; Self-employed, 248 (14)*.

* These figures in parentheses represent the number of women graduates included in the total.

SUMMARY

1. The careers chosen by the first 10 years (1940–49) of medical graduates from the University of Queensland were investigated.

2. During these 10 years 331 graduated and, by 1958, 310 were still practicing.

3. Approximately 40 per cent have or probably will have obtained some form of additional postgraduate qualification.

4. Of those still in practice 52 per cent were in general practice, 42 per cent in clinical specialist practice and hospital practice, and 4 per cent in preventive medicine, research, and University teaching.

5. Approximately 85 per cent are or will be self-employed.

Letter to the Editor

As a full-time practicing physician interested in medical education I had certain reactions to Dr. Snoke's article in the March issue of the *Journal* that I wish to express. I agree with Dr. Snoke that the tripod of education, research, and service is unbalanced. But need it be so?

Should not the major function of a medical school be to train the basic doctor? Does a medical school need to assume responsibility for all medical education, for all research, and for all health services? Is it not unrealistic to think that a medical school should be that omniscient?

Why not start the balancing at the undergraduate level by arranging teaching services and research in the right proportions to train adequately the basic doctor? To meet the health needs of the community a start can be made by asking for a definition of the roles of the following: (1) the medical school; (2) the practicing physicians and their professional societies; (3) hospitals and related institutions, not only those staffed by university professors; (4) other health agencies such as public health, dentistry, and nursing; (5) all the paramedical sciences. The focus should be on the patients and their health needs and the organization of the community to meet these needs. At present the above the agencies and individuals are suffering from myopia, astigmatism, and strabismus. Let us correct our vision and our focus.

Medical education is a lifelong learning, but the major problems confronting the practitioner who has been in the field for 20 or 30 years are very different from those of the medical student and are not readily solved by the youthful academic professor who may be a good research man but usually has had little preparation for either teaching or lecturing and even less experience in the rough and tumble field of the practitioner. On the other hand, this young protegé may cast a ray of light on one little facet of the senior man's problem. Let him limit himself to that facet and let other confrères more experienced in practice contribute from their source of knowledge.

Continued education, even at the house staff level, should recognize that this doctor also has had his basic training (or should have had it). He should now be a participant in the service team, education and research becoming secondary. There is an optimum time to assume responsibility. The medical student is adult. He has had a college education. If he is kept in a dependent position not only during his 4 years of basic training but also during his internship and residency he stands in real danger of being warped in assuming full responsibility as a doctor. There is a tendency at present in medical education to dabble with "family service" even at the freshman level and, I am afraid, often at the expense of basic training. This service is introduced at a time when the student is unprepared and uncomfortable in such a role and consequently does not benefit greatly. At the resident level, on the other hand, great stress is placed on courses in basic science. Practicing physicians are called upon to expand educational programs for residents in all hospitals, until more thought is given to courses than to patients. The resident needs to learn that he must

depend to a great extent on his own initiative and curiosity to keep abreast of the expanding knowledge in the field of medicine. The present upside-down tendency in medical education has produced a house doctor who comes to an institution interested in the pay he may get and in the organized lectures that he can attend but with very little concern for the patient and no great feeling of responsibility toward the institution that hired him.

I cannot agree with the author that the best medical services are given the patients in university hospitals. I will agree that the maximum diagnostic procedures for a given disease may be administered; but total consideration for the patient's present, past, and future is very often better served in the nonuniversity hospital and usually with an accurate diagnosis. The medical school should recognize that it has a large supporting cast in the field of health and that a better total performance can be put out if each agency and individual plays his role optimally.

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ABSTRACTS FROM THE WORLD OF MEDICAL EDUCATION

ANGELA SANCHEZ-BARBUDO, PH.D.
Abstract Editor

Acceptance of Psychiatry by the Medical Student. DENIS HILL, D.P.M. British Medical Journal, pp. 917–918 (March 26), 1960.

The modern medical student, though little burdened by philosophy, shares the prejudices of his cultural setting and dislikes doubt and uncertainty. His attitudes toward psychiatry—too often found to be either uncritical acceptance or uncompromising rejection—depend to a large extent on his childhood, school, and preclinical training, and are liable to reinforcement by his clinical experience and first contacts with psychiatry itself. Numerous factors are invoked to explain the medical student's evident difficulty to approach this subject with the same objectivity which he can give to other subjects. Among these the following are stressed as undoubtedly playing a significant role: inadequate teaching of psychology and sociology in the preclinical period; the small place given to psychiatry in the clinical curriculum; the hostility toward psychiatry often found in admired clinical teachers with whose attitudes students tend to identify; an excessive emphasis on psychopathology and psychological determinism liable to arouse anxiety in the student himself, and the fact that there is as yet no body relevant to etiology and treatment which is generally accepted. The author (from the Institute of Psychiatry, London) suggests, however, that the basic reasons lie deeper and are, indeed, related to the "explanatory hypotheses which each of us must hold about the nature of man and about his behavior." The student, he points out, is offered an immense array of technical knowledge, but what he needs above all is a satisfactory *explanatory hypothesis* about human behavior into which he may fit as best he can all the data of human disease and disorder which he will encounter in his patients in everyday life. Yet, while the great success of the anatomico-pathological concept of disease has abolished *teleological* explanations for biological events, it has never been possible, the author contends, to avoid the concept of purpose when we think of human behavior. Therefore, since the phenomena of mind and mental illness cannot as yet be explained within the system of physical determinism on which medicine as a whole rests, the student is offered rather late in his training a variety of other "explanatory hypotheses" which are foreign to his thinking and his conceptions of the nature of disease, because in the main they are based on psychological or cultural determinism, both including *teleological* ways of thinking. Furthermore, while psychiatry requires the vision of the patient as an individual, this is rarely the case in medical training (despite much lip service in favor of "treating the patient as a whole"), because the teachers are themselves specialists in the different branches of medicine and even during the clinical years the students' attention is constantly directed not to the patient himself but to parts of him only. As to the question of how to remedy this situation, the author admits that there is no easy answer. A reformed curriculum, including a larger rep-

resentation of psychiatry, and the introduction in the preclinical period of formal teaching of psychology and sociology have been advocated. However, in the author's opinion, little change can be expected unless and until the limitations of the explanatory hypotheses which overemphasize the causal-mechanistic concepts are more generally recognized. Such a recognition would then lead to a reformulation of the roles of causation and teleology in human behavior.

Das neue englische Irrenrecht (The New British Mental Health Act). PAUL WOHLFARTH. Deutsche medizinische Wochenschrift, Vol. 11, Heft 3, pp. 75–77 (Feb. 5), 1960.

The Mental Health Act of July 29, 1959, for England and Wales, is praised in this paper as an important milestone in the history of medicine as well as in that of jurisprudence (it becomes especially impressive if one recalls that not so long ago the mentally insane were still considered to be possessed by the devil and treated accordingly). The main medico-legal principles and concepts underlying the 1959 Act are reviewed, and their differences with anterior, now superseded, legislation are pointed out (e.g., the Mental Deficiency Act of 1913/1938, and the Lunacy and Mental Treatments Act of 1890/1930). An important and salutary innovation, in the author's opinion, is the abolition of the legal distinction between *Mental Deficiency* and *Mental Illness* featured by the older legislation—in all legal matters the 1959 Act recognizes the following categories of mental illness: (1) Mental Disorder, (2) Severe Subnormality, (3) Subnormality, and (4) Psychopathic Disorder. Another aspect of progress brought about by the new British Mental Health Act refers to its provisions as to the difficult question of hospitalization and commitment of the mentally ill, which are discussed in detail in this report.

Die Augenheilkunde im Rahmen der Gesamtmedizin und ihre Entwicklung in den letzten sechzig Jahren (The Place of Ophthalmology in Medicine and Its Development during the Last 60 Years). Prof. Dr. P. A. JAENSCH. Deutsche medizinische Wochenschrift, No. 8, pp. 323–25 (Feb. 19), 1960.

Outside the little circle of specialists, the tendency prevails to consider ophthalmology as a small field, without much importance for medicine as a whole. Such a narrow—and misinformed—view is opposed by the author, who is showing in this article through a few examples that there is not only a more or less close relationship between ophthalmology and most of the other disciplines of medicine, but that progress in the former has actually furthered some of the latter, and vice versa. For decades medical teamwork has been carried out for the benefit of the patients. Best known is perhaps the close link which exists between ophthalmology and neurology, or neurosurgery; but the internist, too, has lent considerable help to the eye specialist by his findings concerning diseases of the heart and blood vessels, of blood-pressure, kidneys, etc. Of equal importance are the relations between ophthalmology and bacteriology, serology, and virus research, while many correlations exist between the eyes and children's diseases. Although histological investigations are out of fashion, it is pointed out that cooperation between the pathologist and the ophthalmologist have resulted in the diagnosis of the rarest diseases. Besides the help of all these special fields, ophthalmology owes much of its recent progress to the optical industry (which gave this science a series of precision instruments) and to pharmaceutics, especially drug production, which, through the development of sulfas, antibiotics, cortisone, and hormone compounds considerably enlarged the therapeutic range of ophthalmology.

Die Sozialversicherung in der UdSSR (Social Insurance in the USSR). H. MÜLLER-DIETZ. Duetsche medizinische Wochenschrift, Vol. 85, No. 10, pp. 399–402.

Issued by the medical section of the *Osteuropa-Institut* (Free University, Berlin) this report offers a detailed survey of the Soviet system of social security. The most radical provisions were not introduced immediately after the 1917 Revolution but have been developed throughout the four decades of Soviet rule. The guiding principle on which their social insurance organization is based can be found, however, in Article 120 of the Soviet Constitution which states that "The Citizens of the USSR have the right to be materially provided for in their old age as well as in case of illness or invalidity." This right is to be guaranteed by the social insurance system, including a national medical service, the cost of which is borne entirely by the State. The main provisions of this system are discussed in detail (especially those referring to temporary incapacity; the pregnancy and delivery of working women; aid to children; family aid in case of death of the breadwinner; professional rehabilitation of the chronically ill and the invalids, old age pensions, etc.). The following main principles can be deduced from these provision: (*a*) The system covers all employees, whether they work for State, communal, cooperative, or private enterprises; (*b*) all employees are taken care of in old age and in case of temporary or permanent incapacity to work; (*c*) establishment of a comprehensive medical service (including preventive measures as well as treatment) entirely free of charges for the whole working population and their families. The socialistic principle of "To each according to his achievements" also finds expression in this scheme, since specially skilled and qualified workers as well as those in hardship jobs receive higher amounts of pensions, sick payments, etc. Another characteristic note of the Soviet social insurance system is also seen in its educative function: in accord with Soviet ethics of labor it puts a premium on the highest productivity. On the whole the Soviet social insurance scheme is designed to preserve a maximal working capacity of the labor forces while its provisions are efficient instruments in the carrying out of the Government's long range economic planning.

Hygiène et Médecine Sociale. L'Union Médicale du Canada, Vol. 89, No. 4, pp. 473–92 (April), 1960.

A series of problems in social and preventive medicine are discussed in this section; under the heading *Hygiène Hospitalière* (pp. 473–475). Wilfred Le Blond, Professor at Quebec's Laval University, explains how the dangers of infection in hospitals are aggravated today by the existence and maintenance of the *Ward* (called "Public Area" in the Victorian period). The "bunching-up" of patients in wards, it is pointed out, should be considered just as much outdated as the medieval practice of *lying-in* three, four, or five patients in one hospital bed. In another paper, *Influence de l'Alimentation sur la Santé de l'Homme* (The Influence of Nutrition on Man's Health, pp. 476–478), J. Ernest Sylvestre, Director of the Nutrition Division of the Provincial Secretary of Health, discusses the problems of nutritional deficiencies among several sectors of the population (among grade and high school students, for instance, as revealed by recent statistics); their effects on the health, and the responsibility not only of the trained "hygienist" but of any practicing physician in educating the public in the matter of nutritional hygiene. In *La Santé Mentale* (Mental Health, pp. 478–481), J. E. Alexandre Marcotte, of the Service de Santé, City of Montreal, gives a brief definition of the concept of mental health and its principal criteria, as well as an outline of the measures he thinks most apt to preserve it. These can be resumed as follows: (1) better education of the general public and of certain sectors of government as to the utilization of available preventive services in mental hygiene; (2) increase and progress of the *cliniques médico-psychologiques* for problems of childhood and adolescence; (3) training of a larger number of experts in psychiatry, psychology, nursery, social work, and (4) a closer and more habitual collabora-

tion in the field of preventive mental hygiene between public hygienists, pediatricians, general practitioners, and educators. *La Prévention des Accidents à Domicile* (The Prevention of Accidents at Home, pp. 483–488), by A. B. Valois (also of Montreal's *Service de Santé*), deals with the ways and means to prevent accidents in the home. Reversing the trend of infectious diseases, accidents are increasing every day (with the sole exception of accidents at work which are showing a downward trend thanks to the sustained efforts of safety engineers). While traffic accidents are responsible for the greatest number of deaths, accidents in the home cause almost half of all accidental injuries. A program of prevention of home accidents is outlined (in cooperation with physicians, parents, and the general public), which is to be integrated into the activities of the Department of Public Health of Montreal. A substantial bibliographical list on the subject of home accidents can be found at the end of this paper.

Medizinische Grundlagenforschung in den USA (Research in the Basic Medical Sciences in the U.S.A.). E. HARBERS. Deutsche medizinische Wochenschrift, No. 7, pp. 274–281 (Feb. 12), 1960.

In this report of an almost 3-year visit in the U.S. Dr. Harbers (from the *Institut für Medizinische Physik und Biophysik*, University of Göttingen) describes in detail the organization of medico-scientific investigations in America. His prolonged contact with American scientific and academic life could not but lead, as he points out, to comparisons with European conditions, ensuing meditations on how to improve the latter, especially in his native Germany. He stresses, however, the point that some features vital for the progress of American scientific research are too closely linked to the peculiar sociological and economic conditions of this country to be simply transplanted to Europe. Dr. Harbers' report gives special emphasis to experimental cancer research, one lengthy section being devoted to a detailed description of the activities at Wisconsin's McArdle Memorial Laboratory (including the reproduction of an entire program of a 2-hour weekly course in cancerology). Also discussed is the question—not infrequently raised—of how it was possible that American medical scientific research could, in such a short time, not only catch up with its European counterpart but actually surpass it. Besides other favorable factors, a considerable role in this astonishing development is attributed to the work of the political émigrés of the thirties, while the support of scientific research by Federal and state governments as well as by private institutions is also stressed. Mentioned as a special feature of American academic life is the lack of inhibition manifest in the relations between student youth and Faculty which usually shocks the European visitor and which is frequently misinterpreted by him. At the end of his report Dr. Harbers offers some suggestions for reforms in the organization of scientific research in his country which have been inspired by his American visit.

A Milestone in Cardiovascular Training (Editorial). Circulation, Vol. XXI, No. 3, Part II, pp. 321–22 (March), 1960.

A list of training programs supported by the National Heart Institute (published as a separate supplement to this issue) highlights the extremely rapid increase in research emphasis which has been taking place lately in medical education. Among the most revealing data to be found in this list is the evidence of a close collaboration which is steadily growing between clinical and preclinical departments. Although this development may be considered the logical outcome of the increasing emphasis on basic sciences in clinical research, attention is drawn to some truly surprising features in this collaboration, such as are evident in three training programs in which clinical programs in the clinical departments have joined forces with engineering colleges in order to bring the techniques and disciplines

of fundamental physics directly into clinical research. If these programs are representative of a trend, the clinical cardiologist of the future will have a much more solid background in relevant physiology, biochemistry, and even in biophysics, than his seniors now have; and the distance between cardiovascular research and clinical practice will narrow down more and more. However, surmising that these programs joining clinical and fundamental sciences are being developed because there is a demand for them, doubt is expressed as to how much demand there actually may be for the more ambitious among them, since the number of young people adequately equipped to profit from them cannot be large. Therefore, one of the most important results of publishing the aforementioned list may well be to transmit information on, and draw attention to, these powerful training opportunities. However, the new trend also raises some problems. Are there, for instance, adequate opportunities and economic support for the capable young men or women who after completed training wish to remain in medical research? Another problem is seen in how to guide the promising medical student to this type of training and how to prepare him optimally for it. Most medical schools, it is pointed out, are actively attacking these problems. On the other hand, anxiety has been expressed in various quarters about another more fundamental and urgent problem: the dwindling of numbers and diminishing quality of applicants to medical schools. A wider knowledge of the research training opportunities listed by the National Heart Institute may well prove to be one factor more in attracting gifted high school and college students to careers in medicine.

NEW BOOKS

KENNETH E. PENROD
Book Review Editor

Abstracts

Medical Physics. Volume III. Edited by OTTO GLASSER. Chicago: The Year Book Publishers, Inc., 1960. 721 pp. $25.00.

Volume III of this well known and important book is a complement and a supplement to Volume I (published in 1944) and to Volume II (published in 1950). In Volume III, as in previous volumes, the subjects are arranged in alphabetical order. In those instances in which the subject matter did not undergo significant change, only the titles of the chapters are printed with the appropriate references to the complete articles in either Volume I or Volume II. Most of the subjects in which considerable change has occurred were brought up to date by their original authors, but in some cases new authors have written the text. Approximately half of the chapters in Volume III present material brought up to date; the balance present entirely new subjects.

A Manual of Tropical Medicine. By GEORGE W. HUNTER, III, WILLIAM W. FRYE, and J. CLYDE SWARTZWELDER. 3d ed. Philadelphia: W. B. Saunders Co., 1960. 840 pp. 323 illustrations. $15.00.

As in previous editions of this Manual, the primary objective is the concise presentation of the etiology, epidemiology, pathology, clinical characteristics, diagnosis, treatment, control, and prophylaxsis of the important diseases of the tropics and temperate climates. Since bacterial, parasitic, viral, rickettsial, mycotic, and nutritional diseases constitute significant problems in the practice of medicine, this book is designed to present pertinent information about the major infectious diseases, nutritional disorders, and other conditions. This edition has been revised and rewritten extensively to reflect the more important recent advances in knowledge of the diseases covered by this book. The material has undergone considerable revision with much new information added. Areas not previous covered in the two editions of this book have been included.

Medical Care of the Adolescent. By J. ROSWELL GALLAGHER. New York: Appleton-Century-Crofts, Inc., 1960. 356 pp. $10.00.

This book is presented as a textbook concerning the medical care and understanding of adolescents themselves and of their disorders. Its two chief purposes are to discuss those ailments which are common in adolescence or which present some peculiarity during that period of life; and to emphasize the importance of taking adolescents themselves, their characteristics, their hopes and fears into account, and of treating *them*, not just their illnesses. While it is emphasized throughout that adolescents *are* different, it is not the desire of the author to create or suggest a new specialty; on the contrary, the book speaks for comprehensive generalist care.

Curriculum Development. By AMY FRANCES BROWN. Philadelphia: W. B. Saunders Co., 1960. 832 pp. $10.00.

The author of this work has had considerable experience in the development of the curriculum in schools of nursing. This book is a revision and expansion of the first six units of her previous book *Clinical Instruction*, published in 1949. Many persons with a variety of backgrounds have contributed materially to this book.

First Aid, Diagnosis and Management. By WARREN H. COLE and CHARLES B. PUESTOW with 16 contributing authors. 5th ed. New York: Appleton-Century-Crofts, Inc., 1960. 406 pp.

This is the fifth revision of this book since it was first written 18 years ago. A few factors

dealing with well established fundamentals, basic medical principles, and tried and proved methods of treatment required little alteration. The management of many emergencies previously described has been modernized, and the discussion of them has had extensive revision. Casualties associated with atomic energy have received considerable attention. One new chapter, "Injuries of the Hand," has been added.

Social Science in Nursing. By FRANCES COOKE MACGREGOR. New York: Russell Sage Foundation, 1960. 342 pp. $5.00.

This book has been primarily designed and written for nursing educators, administrators, practitioners, and nursing students. It will also be useful to physicians and members of allied professions who seek ways to understand better those individuals for whose physical and mental health they are responsible. It is divided into three parts as follows: part 1 is a discussion of the rationale for incorporating the social sciences into nursing and what the behavioral disciplines are. Part 2 is a description of an experiment in applying the social sciences to nursing education and clinical practice, and what effect the experiment has had on nursing and the care of patients. Part 3 consists of a discussion of some of the problems of collaboration that are encountered at the present time as the social sciences and the nursing profession converge.

Enzymes in Health and Disease. Edited by DAVID M. GREENBERG and HAROLD A. HARPER with 26 contributors. Springfield, Illinois: Charles C Thomas, 1960. 459 pp. $14.50.

In April, 1959, a course bearing the title of this book was organized at the University of California Medical Center in San Francisco to review current knowledge of the relationships of enzymes to the etiology, diagnosis, and therapy of disease. This book is comprised of the papers delivered at this course. The participants were selected so as to implement a desire for a a multidisciplinary approach to a basic medical area. During the first sessions, fundamental aspects of enzymology and enzyme systems were presented. The second session was devoted to certain clinical aspects of the subject including panel discussions on clinical and laboratory experiences with penicillinase as well as on the current status of the use of enzymes in medical practice. The book points out that recognition of the role of the genetic constitution in controlling the pattern of enzymes of the organism has even led to the development of the new science of biochemical genetics and this has served to clarify the etiology of many diseases formerly referred to simply as "inborn errors of metabolism."

Dermatologic Medications. By MARGUERITE RUSH LERNER and AARON BUNSEN LERNER. 2d ed. Chicago: The Year Book Publishers, Inc., 1960. 195 pp. $6.00.

This is a book about drugs used in dermatology—what they are, how they work, when to use them. In contrast to the days when the physician had to concoct esoteric prescriptions to treat different skin disorders, today there is an abundance of commercial preparations available. This book is aimed as an aid in choosing which of the many agents is the best for the particular disease of each patient. In a sense, it is a small, practical pharmacology text of dermatologic agents. It is not simply a drug list. A lucid justification for learning structural formulae of drugs is given. Because therapeutic horizons are expanding rapidly, it is necessary to take an inventory of the preparations most commonly used in dermatology today —to set forth the indications for their use, to explain their mechanism of action, and to compare their likenesses and differences. It is with these aims that this book was written so that the physician can adopt a rational and useful approach to treating diseases of the skin.

Patterns of Professional Education. By WILLIAM J. MCGLOTHLIN. New York: J. P. Putnam's Sons, 1960. 276 pp. $6.75.

In this volume is reported a comparative study of the educational programs of ten professions—architecture, business administration, engineering, law, medicine, nursing, psychology, social work, teacher education, and veterinary medicine. Systematically the author analyzes these programs in terms of their aims, their curricula, and methods of instruction, the qualities sought in their faculties, the criteria and procedures used in the recruitment and selection of students, the way the professional schools are related to the university, and the procedures followed in accrediting the programs. He directs

special attention to the efforts made to give instruction in professional ethics. He further suggests the kinds of studies which need to be made to provide a sounder basis for the reconstruction of programs of education for the profession, and he proposes a national conference of educational leaders in the several professions to exchange relevant experiences and to plan for their developments.

The Metabolism of Cardiac Glycosides. By S. E. WRIGHT. Springfield, Illinois: Charles C Thomas, 1960. 86 pp. $4.75.

The sub-heading of this book is "A Review of the Absorption, Metabolism and Excretion of Clinically Important Cardiac Glycosides." It is the purpose of this review to compare the behavior of the important glycosides used in therapeutics, particularly in respect to their metabolic breakdown and excretion, and to review the salient facts upon which are based present concepts of the relationship between their chemical constitution and pharmacological activity.

Physiology of the Retina and the Visual Pathway. By G. S. BRINDLEY. Baltimore: The Williams & Wilkins Co., 1960. 292 pp. $7.50.

The theme of this book is: "How does the human visual pathway work?" The first three chapters describe what can be learned of the function of the retina and visual pathway from purely objective experiments of the kind familiar in nonsensory branches of physiology. Most of these observations are electrophysiological and biochemical. No special section is devoted to relevant anatomy, but anatomical evidence on questions of function is frequently introduced. The last four chapters consider the results of sensory experiments, experiments in which an essential part of the result is a report by a human subject of his own sensations. This is a tightly written book, very full of information. To make the browser's task easier, the author has provided an analytical list of contents, full indexes, and abundant internal cross references in the text.

Treatment by Manipulation and Massage. By JAMES CYRIAX. 6th ed. New York: Paul B. Hoeber, Inc., 1960. 371 pp. $7.50.

This book is aimed primarily for the physiotherapist. In the present edition the theoretical aspect of precise manual methods has been considered at great length; and the principles underlying treatment by manipulation, traction, and massage are set out in detail. The indications for and against such methods have been included, together with a summary of the different ways in which rehabilitation is best achieved after soft tissue injuries. Thus, in addition to descriptions and illustrations of how to carry out a number of essential manoeuvres, the physiotherapist is afforded an adequate view of the whys and wherefores of much of his or her daily work. Every technique described is illustrated by photograph or drawing together with verbal descriptions.

Physiology of Prematurity. Transactions of the Fourth Josiah Macy, Jr., Foundation Conference, March 25–27, 1959. Princeton, New Jersey. Edited by JONATHAN T. LANMAN. 176 pp. $4.50.

This conference was attended by 22 participants. The formal papers with discussion were: Heat Regulation, by S. Z. Levine and E. F. Adolph; Hypothermia and Asphyxia of the Newborn, by James A. Miller, Jr.; and Chemical Structure, Functional Integration, and Renal Regulation as Factors in the Physiology of the Newborn, by Elsie M. Widdowson.

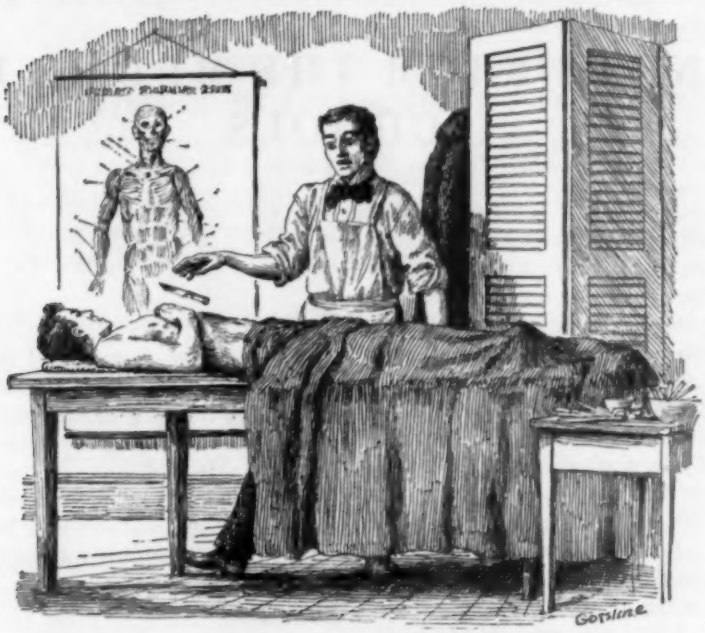
Virus Virulence and Pathogenicity. Ciba Foundation Study Group No. 4. Edited by G. E. W. WOLSTENHOLME and CECELIA M. O'CONNOR. Boston: Little, Brown & Co., 1960. 110 pp.

This conference, held June 15, 1959, was attended by seventeen participants. This is the publication of the fourth of four experimental study groups convened by the Ciba Foundation. The subjects investigated by the previous three were "Pain and Itch," "Steric Course of Microbiological Reaction," and "Cancer of the Cervix."

Henry E. Sigerist on the Sociology of Medicine. Edited by MILTON I. ROEMER. New York: MD Publications, Inc., 1960. 380 pp. $6.75.

From Sigerist's abundant writings, 31 essays have been assembled. They span the period of 1931 to 1955. Twenty-eight of these have

been previously published, but two are from manuscripts found among Sigerist's papers, and one is derived from an unpublished document submitted to the World Health Organization. In 1946 twelve of Sigerist's best essays on educational philosophy were brought together in *The University at the Crossroads*. Another collection of his essays appears as a companion volume to this one: *Henry E. Sigerist on the History of Medicine*. Many of these essays dealt with the sociology of medicine, but none of them is duplicated in this volume—nor are there excerpts from any of Sigerist's other books. The objective was to make available the principal Sigerist papers on medical sociology not to be found elsewhere in book form.



Chaptal, J. A.

A rather extraordinary occurrence, however, soon cooled my ardor for anatomy. At Montpellier the cadavers were insufficient for the needs of the amphitheaters and, very often, it became necessary to suspend the course until the asylum was able to deliver them. It was this want of material for teaching which led me to become intimate with M. Fressines, chief surgeon of the Hôtel-Dieu, in order to work together with him in anatomy. One day Fressines came to tell me that a cadaver had just been delivered to his particular amphitheater. We went there immediately; I found the body of a young man who had died four or five hours earlier of an inflammation of the lungs. I recognized this young man as having helped me pick up the balls when I was playing pall-mall, and this circumstance made me feel ill at ease. Nevertheless, I set about dissecting him, but at the first stroke of the scalpel on the cartilages that connect the ribs with the sternum, the cadaver placed the right hand on the heart and the head moved feebly. The scalpel fell from my hands and I fled in fright. From this moment on, I abandoned the study of anatomy.

— Mémoires personnels rédigés par lui-même de 1756 à 1804 *in* Mes Souvenirs sur Napoléon. Paris: E. Plon, 1897.

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NEWS FROM THE MEDICAL SCHOOLS

Baylor

The College of Medicine has entered into a unique program with the College de France in Paris. A joint appointment, designed to promote a closer working relationship in the medical sciences between the two schools will enable a member of the Baylor faculty to divide his time between Houston and Paris, working in the Institute for Experimental Endocrinology at the College de France. Under this arrangement, made possible by a grant of $5,000 from the Houston Endowment, Inc., Dr. ROGER GUILLEMIN, associate professor of physiology, became associate director of the Institute July 1. Dr. EDWARD SAKIZ, a member of the Institute who has spent the past six months at the College of Medicine, will be Dr. Guillemin's associate at the College de France. Established in 1530, the College de France is a research and investigative institution. Its teaching program is directed toward advanced students at the post doctoral level.

Dean STANLEY W. OLSON announced the appointment of Dr. JAMES A. KNIGHT as Assistant Dean of Baylor University College of Medicine. He will retain teaching and clinical responsibilities in the department of psychiatry to which he was appointed in 1958 and where he now holds the rank of assistant professor.

Boston

A professorship will be established in the School of Medicine with funds provided by the late Anne Ramsey of Boston. The university will receive more than $900,000, of which $25,000 is provided for the direct allocation toward the endowment of the professorship. The will also provides that one-fourth the income of the balance of the estate granted to the university will be added to the endowment of this chair.

Bowman Gray

Three faculty members of the Bowman Gray School of Medicine have received promotions to the rank of full professor, effective July 1. Receiving the promotions were Dr. WILLIAM H. BOYCE, professor of urology; Dr. RICHARD L. BURT, professor of obstetrics and gynecology; and Dr. R. WINSTON ROBERTS, professor of ophthalmology.

Buffalo

Assistant Dean ROBERT L. BROWN has been appointed Acting Dean of the School of Medicine, replacing Dr. ERNEST WITEBSKY, who stepped down from his administrative post in order to devote more time to teaching and research.

Chicago Medical

Work is being completed on the last floor of the $4.5 million, 10-story medical research institute which the Chicago Medical School is building at 2020 Ogden Ave., Chicago. According to Dr. JOHN J. SHEININ, the school's President, the block long structure is expected to be ready for occupancy early next March. Approximately $1 million remains to be raised for the building. Plans also are going ahead to build a 14-story medical school to replace the school's present home at 710 S. Wolcott Ave. The new school with its equipment is expected to cost $7.5 million and will be erected within the same 9.5 acre campus in the west side medical center. Plans, still in the formative stage, also call

"As a rule I am against shorthand books and synopses,

however, I must say that after going over Ulett and Goodrich's A SYNOPSIS OF CONTEMPORARY PSYCHIATRY, I am most favorably impressed. . . They have written this in a clear, fair eclectic way. . . This is one of the best of this type of thing that I have seen, in spite of my bias against synopses, we will highly commend this to our students and residents."

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For this soon-to-be-released 2nd edition, the authors have rewritten many portions of this book including those on EEG examinations, neuropharmacology, personality development, individual psychotherapy, group therapy, convulsive therapies, management of suicidal patients and include other recent advances.

By GEORGE A. ULETT, M.D. and D. WELLS GOODRICH, M.D. New 2nd edition scheduled for release in October, 1960.

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The just published 5th edition provides new information on a great many advances in all areas of pathology such as an indication of adrenal cortical response to ACTH, functions of mast cells, nature of malarial pigment and many others.

By W. A. D. Anderson, M.D. Just published. 1960, 5th edition, 876 pages, 4⅞" × 7⅝", 414 illustrations and 4 color plates. Price, $9.25.

"While a teacher of gynecology . . .

will fill his shelves with substantial and comprehensive monographs dealing with gynecology and its relationship to the other medical disciplines and will in fact demand of his students that they have access to similar volumes, he nevertheless recognizes the need and rightful place of synopses . . . Such a need is admirably filled by the SYNOPSIS OF GYNECOLOGY which gives a broad perspective of a large field in a small orderly vade mecum."

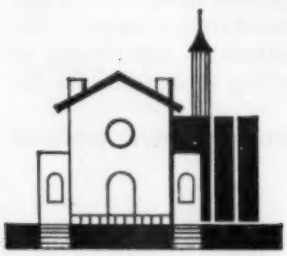
—Comments by Instructor in Gynecology on new 5th edition

New 5th Edition **Crossen-Beacham-Beacham**

SYNOPSIS OF GYNECOLOGY

Twelve chapters have been entirely rewritten for this new 5th edition and two new chapters have been added—one on endometriosis and the other on pregnancy complications.

By ROBERT JAMES CROSSEN, M.D.; DANIEL WINSTON BEACHAM, M.D.; and WOODARD DAVIS BEACHAM, M.D. New. 1959, 5th edition, 340 pages, 4⅞" × 7⅝", 106 illustrations, including 1 two-page color insert. Price, $6.50.



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for erecting two additional buildings, one of which will house full-time faculty members and their families. The entire campus development, when completed, will represent an expenditure of approximately $25 million.

Colorado

Approximately 50 medical educators from 30 nations attended the annual four-day Conference on Medical Educaiton for Foreign Scholars in the Medical Sciences at Boulder recently. Held under the auspices of the CU School of Medicine, purpose of the conference each year is to broaden the perspective of American medical education for those attending and to afford opportunities for discussions with American educational leaders. Delegates were medical educators in their own countries who are in the United States for one year or more of study at various institutions. Many are Fulbright scholars. The Boulder conference is the first in the Rocky Mountain region. Previous meetings were held in Wisconsin and Iowa.

Two members of the UC faculty retired July 1 as professors emeriti. They are Dr. ALFRED H. WASHBURN, clinical professor of pediatrics, and Dr. FLORIAN A. CAJORI, professor of biochemistry. Dr. Cajori served on the faculty for 14 years and Dr. Washburn was a veteran of 30 years as a faculty member.

Columbia

Beginning with the 1960–61 academic year, Columbia's School of Public Health and Administrative Medicine will offer a new degree program to provide essential training for research in administrative medicine. This program will be administered by the Graduate Faculties of the university. Qualified applicants will be chosen from those with previous training in administrative medicine, public health, medicine, or the social sciences. According to a university spokesman, the program offered should equip graduates for research careers, for teaching positions, or, in certain specialized situations, for positions in the practice of administrative medicine demanding deep insights and responsibilities. The initiation of this new program has been aided by a grant from the Kellogg Foundation.

Two members of the faculty of the College of Physicians and Surgeons retired July 1 as professors emeriti. A veteran of 21 years on the staff, Dr. RUSTIN MCINTOSH retired as Carpentier professor of pediatrics. He also retired as attending pediatrician and director of pediatric service at Babies (Presbyterian) Hospital at the Columbia Presbyterian Medical Center. He will serve as consultant to Presbyterian Hospital. Dr. GIOACCHINO FAILLA retired from the faculty after seventeen years as professor of radiology. Dr. Failla established and directed the radiological research laboratory at the College of Physicians and Surgeons.

Creighton

Dr. THEODORE R. PFUNDT is the new chairman of the department of pediatrics at the School of Medicine. A graduate of the University of Oklahoma Medical School, he served on that school's faculty and as a pediatric consultant to the Oklahoma State Department of Health. He joined the Louisiana State University medical faculty in 1958 and also served as senior pediatrician to the Child Development Program at Charity Hospital in New Orleans.

Georgetown

The Georgetown University Medical Center has announced a program under which three qualified general practitioners can train in psychiatry for three years with yearly grants of $12,000. Appropriated by the National Institute of Mental Health, the grant covers a residency program providing intensive and varied experience by utilization of the psychiatric facilities of the Medical Center, D.C. General Hospital, and Mt. Alto Veterans Administration hospital. Dr. RICHARD A. STEINBACH, department of psychiatry, is handling applications for the program.

Dr. BRUCE SHNIDER, assistant professor

of medicine, was named assistant dean of the school July 1.

Hahnemann

A major reorganization of the governing Board of Hahnemann Medical College and Hospital was announced recently. As a result, Dr. CHARLES S. CAMERON, Dean of the Medical College for the past four years, was elected president of the Corporation. In making the announcement, former president WATSON MALONE III said, "the election of Dr. Cameron as president will enable him to concentrate more fully on the recently announced $15 million building program as well as develop the philosophy of a medical institution which has drawn national and international attention for its progressive program of medical education, medical research, and patient care." Dr. Cameron will relinquish his duties as Dean as soon as a replacement is appointed.

Harvard

The appointment of Dr. PERRY J. CULVER as Assistant Dean for admissions at the Harvard Medical School is announced by Dr. GEORGE P. BERRY, Dean. Dr. Culver succeeds Dr. KENDALL EMERSON JR., who has resigned to become medical consultant at the Boston Lying-in-Hospital. Dr. Culver will continue to serve as clinical associate in medicine and as assistant physician at the Massachusetts General Hospital.

The medical school announced the retirement on August 31 of Dr. ALLAN MACY BUTLER as professor of pediatrics and Dr. FELIX GEORGE FLEISCHNER as clinical professor of radiology. They will become professors emeriti. Dr. Butler will also retire as chief of the Children's Medical service at the Massachusetts General Hospital, and Dr. Fleischner will retire as radiologist in chief at the Beth Israel Hospital.

Indiana

The Indiana Medical Center is participating in a newly-instituted, year-long program which will give Evansville, Ind., ministers the chance to take formal training preparing them for the battle against mental illnesses. Open to clergymen of all faiths, the program will include two weeks of clinical training in a mental hospital and 12 monthly seminars in Evansville.

Jefferson

Dr. WILLIAM A. SODEMAN, Dean of the College, returned August 1 from Accra, Ghana where he headed a survey party studying the feasibility of and problems with, the establishing of a medical college and hospital in that new nation. The group went under the auspices of the U.S. Overseas Mission of the International Cooperative Administration. Dr. PAUL CORNELY, medical director of the Howard University Hospital, Washington, D.C., also was a member of the party.

Johns Hopkins

Honor in the form of full professorships in the School of Medicine has been paid to five members of the Johns Hopkins faculty. The five are Drs. WARFIELD M. FIROR and WILLIAM F. RIENHOFF, JR., made professors of surgery; and Drs. SAMUEL P. ASPER, JR., JOHN EAGER HOWARD, and VICTOR A. MCKUSICK, professors of medicine. All are graduates of the Hopkins School of Medicine and all received all or most of their postgraduate training as interns and residents in the Hopkins Hospital.

Meharry

Meharry's long-range development program, which proposes to raise sufficient funds to meet the primary needs of the college is now in progress. An estimated $19 million is required to meet two of the major objectives—construction of new buildings and renovation of existing facilities, and endowment for salary increases, new appointments, and maintenance costs.

Missouri

Dr. GARTH S. RUSSELL, specialist on tissue transplantation, has joined the Missouri faculty as research associate in surgery and will be engaged full-time in the various operations of the Lions Eye Tissue Bank, which was established at the school earlier this year with funds provided by the Lions clubs of Missouri. Dr. Russell has been serving a rotating internship at Wesley Hospital, Wichita.

New York Medical

Dr. BERNARD M. WAGNER has been appointed professor and chairman of the department of pathology. He will also be chief pathologist at the College Flower and Fifth Avenue Hospitals and at Metropolitan Hospital. Now at the University of Washington Medical School, he will assume his new duties at the end of the academic year.

Dr. SYLVESTER J. CARTER has been named director of the newly established Hand Surgery Service at the College. The Service is located at Metropolitan Hospital.

New York University

A gift of $35,000 from the Charles E. Merrill Trust to help in the establishment of the Irvington House Institute for Rheumatic Fever and Allied Diseases was announced recently by the chairman of the $1 million campaign for that purpose. The total raised so far is $682,000. The institute will be an autonomous unit for research and clinical and hospital treatment for children operating within the framework of the New York University-Bellevue Medical Center.

Dr. HARRY MOST, Hermann M. Biggs professor of preventive medicine and chairman of the department, has been appointed director of the Commission on Parasitic Diseases of the Armed Forces Epidemiological Board. The appointment, for a two-year term, became effective July 1.

North Dakota

Dr. THOMAS L. SCHAFER has joined the pediatrics department at Grand Forks Clinic. A graduate of the Universityof Minnesota College of Medicine, Dr. Schafer received his pediatric training at University Hospital, Minneapolis, and has practiced there for the past two years.

Northwestern

The Spies Nutrition Clinic, operating since 1935 in the Hillman Hospital and Clinic, Birmingham, Ala., and a satellite operation since 1947 with Northwestern University, will be closed. No deadline for discontinuing the clinic has been set. The decision was necessitated by the death last February of Dr. TOM D. SPIES, founder and head of the clinic. Research currently under way at the Birmingham clinic is to be absorbed by the department of nutrition and metabolism at Northwestern, in a building given to the school by the National Spies Committee. It was in the Birmingham setting in 1947 where Dr. Spies demonstrated that a vitamin containing nicotinic acid and niacin was an "absolute cure" for pellagra. Many other nutritional research projects were also conducted here.

Ohio State

Dr. CHARLES A. DOAN, who will retire July 1, 1961 as Dean of Ohio State University College of Medicine and director of the Health Center in Columbus, received AMA's 1960 Distinguished Service Award, one of medicine's highest honors. An international authority on hematology and blood diseases, Dr. Doan also holds titles of professor of medicine and director of medical research at Ohio State. He has contributed more than 200 research papers to medical science and has headed the university's research in leukemia, Hodgkin's disease, and aplastic anemia. Joining the medical faculty in 1930, Dr. Doan has been Dean of the school for the past 16 years.

Oregon

Dr. WARREN C. HUNTER, on the eve of his retirement after 36 years as a member of the Oregon faculty, was elected president of

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the Pacific Northwest Society of Pathologists for the second time—the first time in the history of the Society any physician has been so honored. Dr. Hunter will go to the Portland Sanitarium and Hospital on a full-time basis after his retirement, but will continue to teach at the medical school as a clinical professor of pathology.

Dr. JACKSON T. CRANE, formerly associate professor of pathology and surgery at the University of California School of Medicine, has been appointed to Dr. Hunter's position as professor and chairman of the department of pathology.

Construction on a $2,611,955 medical research laboratories building on the medical school campus is slated to begin late this summer, will occupancy set for 1962. The nine-story structure will house basic science and clinical research laboratories, animal quarters, animal surgery, instrument shops and a radioisotope center.

Pennsylvania

Dr. HENRY L. BOCKUS has been elected board chairman of the Medical International Cooperation Organization, known as MEDICO. Dr. Bockus is chairman of the internal medicine and gastroenterology departments at the school.

The Graduate School of Medicine has received a grant of $100,000 from the Benjamin Rosenthal Foundation of New York. Dr. PAUL NEMIR, Jr., Dean of the school, said the grant would be used over four years to augment and improve the medical services and facilities of the graduate hospital of the university.

South Carolina

The Medical College of South Carolina has named two of its faculty members to Deans' posts. Dr. H. RAWLING PRATT-THOMAS became Dean of the School of Medicine and Dr. VINCE MOSELEY was named Dean of Clinical Medicine. Dr. Pratt-Thomas succeeds Dr. JOHN T. CUTTINO, who became president of the Medical College July 1 upon the retirement of Dr. KENNETH M. LYNCH. Moseley's post is a new one for the college.

Dr. Pratt-Thomas, an alumnus of the Medical College, is a professor of pathology and served in 1957–58 as president of the Charleston County Medical Society.

Dr. Moseley, who joined the staff of the Medical College in 1947, attended Clemson and Duke Universities and received his internship at Duke and the University of Pennsylvania. He has served as chairman of the Section of Medicine of the Southern Medical Association and of the Medical and Scientific Committee of the S.C. Chapter of the Arthritis and Rheumatism Foundation.

Southern California

Dr. CLAYTON G. LOOSLI, Dean, announced several administrative changes in the School of Medicine. Named Vice-President in charge of academic affairs is TRACY E. STREVEY; Dr. PAUL R. SAUNDERS was appointed Associate Dean for medical education; Dr. FRED A. KRAUS became associate director of development for medicine; and PETER V. LEE is the new admissions officer. Dr. FRANK M. ANDERSON will take over as chairman of the neurosurgery department and named to the chairmanship of the department of urology is Dr. LOUIS J. LOMBARDO, Jr.

Stanford

The newly constructed Palo Alta Veterans Administration Hospital, affiliated with Stanford's School of Medicine, is now ready for occupancy. The $20 million structure contains facilities for research laboratories in cardio-pulmonary, metabolism and endocrinology, biochemistry, pathology, medical microbiology, hematology, dermatology, and surgery. Emphasis will continue to be placed on research program in psycho-physiological areas. The hospital medical residency program will be integrated with the Stanford School of Medicine, with training programs in nearly all specialties. Faculty members of the school will comprise an important segment of the Palo Alta VA Hospital teach-

ing staff, according to Manager Dr. JOHN J. PRUSMACK.

S.U.N.Y. Syracuse

The Upstate Medical Center hosted 40 Indian educators at a "Conference on Medical Education" recently. The session was designed to give the visitors an over-all view of American medical education. They have been studying various specialties in this country at Harvard Medical School, Cornell Medical College, Johns Hopkins and other schools.

Dr. ALLEN B. DOBKIN will become head of the department of anesthesiology September 1. Dr. Dobkin's appointment is concurrent with the formation of this department, which was affiliated with the department of surgery. Dr. Dobkin comes to the Medical College from the University of Saskatchewan College of Medicine where he has held the positions of assistant professor and associate professor of anesthesia.

Temple

A laboratory for research in cystic fibrosis has been established at the School of Medicine according to Dean ROBERT H. BUCHER and Dr. WYNNE SHARPLES, president of the newly formed Cystic Fibrosis Research Institute of Pennsylvania, Inc. Dr. Sharples, founder and former president of the National Cystic Fibrosis Research Foundation, said the research effort at Temple would constitute the major activity supported by the new institute. A research director will be appointed to the staff to supervise the new laboratory, where an intensive program of basic approach to the disease will be initiated through such avenues as biochemistry, enzymology and genetics.

Dr. GEORGE P. ROSEMOND has been promoted to professor and co-chairman of the department of surgery. According to Dean Bucher, the unprecedented appointment was made in recognition of the tremendous increase in the surgical services and teaching responsibilities at Temple. Dr. Rosemond will share these obligations with Dr. W. EMORY BURNETT, head of the department since 1944.

Dr. FRED B. ROGERS has been promoted to professor of preventive medicine. Dr. Rogers, who is 33 years old, has the distinction of being the youngest full professor on the medical staff at Temple, and at age 21, was one of the youngest students ever to graduate from its School of Medicine.

Tulane

A visiting professorship of urology has been established at the School of Medicine in honor of Dr. EDGAR BURNS, professor of urology at Tulane, who served as head of the division for 11 years. The professorship, established through gifts of former students and trainees, friends, and associates of Dr. Burns, will allow a leading urologist to visit Tulane each year to lecture and conduct hospital teaching sessions for a week or 10-day period. Current head of the division of urology is Dr. JORGEN U. SCHLEGEL. Dr. Burns continues to serve as professor of urology.

West Virginia

The University of Minnesota Medical School is losing five of its faculty members to the West Virginia School of Medicine. Dr. BERNARD ZIMMERMANN, former professor of surgery at Minnesota, was named head of the department of surgery at West Virginia, taking three of his colleagues with him. They are Dr. HERBERT A. WARDEN, who became an associate professor; Dr. WALTER H. MORAN, who was named an instructor; and Dr. THOMAS J. TARNAY, who will be a resident in surgery.

The fifth member from Minnesota to join the West Virginia faculty of medicine is Dr EDMUND FINK, who has been named professor and chairman of the department of medicine.

The new University Teaching Hospital opened its doors to patients in early August, marking a milestone in the growth of the university. Approximately 65 beds of the 520 bed hospital will be occupied by the end

of August and the beginning of the 1960–61 academic year. Present plans call for the hospital to be operating 200 beds by the end of the first year.

Western Reserve

Dr. JOSEPH T. WEARN relinquished his duties as vice-president of medical affairs on July 1, to become professor emeritus of medicine. Dr. Wearn served as Dean of the university's School of Medicine from 1945 to 1959. He has been a professor of medicine at Western Reserve since 1929, and from 1929 to 1957 he was director of medicine at University Hospitals.

Women's Medical

Dr. IRENE E. MAHER who has been Assistant Dean of the college for the past 11 years, has been named Associate Dean of Woman's Medical College. Dr. EVA F. FOX received the new appointment of Assistant Dean.

Yale

Dr. THOMAS R. FORBES and Dr. ARTHUR EBBERT, JR., both Assistant Deans, have been named Associate Deans. The two Associate Deans, whose appointments became effective mid-July, have had key roles in the development and expansion of the medical education program during the past years and in the activities scheduled for 1960–61 for the celebration of the 150th anniversary of the founding of the Yale School of Medicine. Dr. Forbes, who is also associate professor of anatomy, has been on the Yale faculty since 1945. Dr. Ebbert came to Yale in 1953 as instructor in medicine and Assistant Dean and was promoted to assistant professor in 1954. He has been in charge of postgraduate medical education and director of the Yale Diagnostic Clinic.

Toronto

Dr. RAY F. FARQUHARSON, professor of medicine at the University of Toronto since 1947, and physician-in-chief of Toronto General Hospital, is retiring at age 62 from the twin posts. Dr. Farquharson has been with the University of Toronto and the Toronto General Hospital almost continuously since his graduation in 1922 and his internship at Toronto General Hospital in 1923. Dr. Farquharson has held the Sir John and Lady Eaton professorship of medicine. He will now devote his energies to the National Research Council, of which he is vice-president, and to various medical groups in which he is an advisory officer.

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ITEMS OF CURRENT INTEREST

Flexner Portrait to AAMC

The frontispiece from Abraham Flexner's autobiography, *I Remember*, was the inspiration for a portrait which will hang in the headquarters building of the Association of American Medical Colleges.

Dr. Abraham Flexner

The portrait of Dr. Flexner, presented to the Association by Mr. Joshua Glasser of Chicago because "it is the most logical and appropriate place for it," was painted by a young and promising negro artist, Albert Jackson, who also has done likenesses of Drs. Einstein and Schweitzer. Mr. Glasser and Dr. Flexner were not only long-time friends, but were distantly related. Mrs. Glasser was a niece of the man who was responsible for the contribution of literally hundreds of millions of dollars to medical educational purposes, and who also was responsible for the present day quality of American medical education.

Three Institutions Unite

A joint announcement was made July 8 by Deane W. Malott, president of Cornell University, Philip Bastedo, president of the New York Society for the Relief of the Ruptured and Crippled, and Francis Kernan, president of The Society of the New York Hospital, that a new formal affiliation has been signed by the three institutions. In effect this is an affiliation between Cornell University's Medical College, the Hospital for Special Surgery which is maintained by the New York Society for the Relief of the Ruptured and Crippled and The New York Hospital which is maintained by The Society of the New York Hospital. In announcing the affiliation, Malott said, "Both the New York Hospital and the Hospital for Special Surgery are impressed with the importance of rendering a larger, better, and more important service to the sick of the community and of the nation, and to medical education and medical science through a more intimate and organic affiliation with Cornell University Medical College."

The Society of the New York Hospital provides services and facilities for the care and treatment of patients with most types of diseases, for the teaching of physicians and students, and for research. The New York Hospital and Cornell University Medical College have worked together since 1910 and in 1927 both institutions entered into an organic affiliation for the purpose of enlarging cooperation in the advancement of medical care, education and research. The Hospital for Special Surgery provides services and facilities for the care and treatment of patients suffering from orthopedic, rheumatic and other crippling conditions. It has also carried on a program of teaching and research and is now constructing the Alfred H. Caspary Research building, adjoining the Hospital, to provide for its expanding research program.

Under terms of the new agreement, the three institutions will each continue their independent corporate existences though cooperative programs have been outlined concerning faculty and hospital appointments, appointments of resident staff and fellows, Cornell University-New York Hospital School of Nursing rotation program as well as the organization of committees relating to these departments. The new affiliation will give impetus to the steadily advancing program in the teaching of medical and

nursing students and of the resident staff in the development of medical research.

Medical Television Internship Grants Offered

An expense grant to aid in the establishment of a medical television internship by the Institute for the Advancement of Medical Communications has been awarded by the Blonder-Tongue Foundation, Newark, N.J., a non-profit organization.

The Blonder-Tongue grant will provide doctors or other interested persons in the medical field the opportunity to study the latest techniques in closed circuit television. The purpose is to expand the use of this new method of visual communications for medical education. The Foundation aims to further the study of electronics and broaden the use of closed circuit TV as an effective educational medium in the medical field.

Urological Association Offering Awards

The American Urological Association offers an annual award of $1000 (first prize, $500; second prize $300; and third prize $200) for essays on the result of some clinical or laboratory research in urology. Competition is limited to urologists who have been graduated not more than ten years, and to hospital interns and residents doing research work in urology. For further information write to the Executive Secretary, William P. Didusch, 1120 North Charles St., Baltimore, Md. Essays must be in his hands before Dec. 1, 1960.

States Eyeing Medical School Needs

With plans under way for a new medical school at the University of New Mexico, other states are taking specific steps to examine their medical education needs. In Arizona, a grant of $135,000 has been received from The Commonwealth Fund for a detailed study of the state's need for a college of medicine. If the survey, which is expected to take about a year, indicates such a need, the study will investigate and recommend in broad outline the type of school to be established, its location within the state, and a time schedule and budget for building the physical plant and hiring a staff.

In California, Governor Edmund G. Brown ordered a thorough study of medical care needs in the state, including plans to strengthen and increase medical education facilities. One possibility under study is establishment of a medical center in the San Diego area.

The State Medical Association in Montana has created a special committee to study the state's medical manpower problems, and to consider the possibility of interstate cooperation in planning and organizing a new medical school somewhere in the Northwest.

In Idaho, the State Board of Education has joined with the Idaho State Medical Association and other groups in requesting a study of the appropriateness of establishing a medical school at an Idaho institution of higher learning. Both Idaho State College at Pocatello and the University of Idaho at Moscow already have made preliminary surveys of their resources for administering a medical school.

Research Fellowships and Traineeships in Teaching Offered

The Medical Section of the National Tuberculosis Association, the American Thoracic Society (formerly the American Trudeau Society) is inviting applications for both research fellowships and traineeships in teaching with November 1 as the deadline for submission of application.

Each applicant for an NTA fellowship or traineeship must have been accepted by the head of the department under whom he expects to work for the next academic year in this country. Awards are determined by individual circumstances and are paid directly to the fellow on a quarterly basis. Further information may be obtained by writing to the Director of Medical Education, American Thoracic Society, 1790 Broadway, New York 19, N.Y.

PERSONNEL EXCHANGE

Faculty Vacancies

NEUROLOGIST-INFECTIONIST: Two geographical full-time positions in a 400-bed general hospital with medical school faculty appointments. Duties to include teaching; research will be encouraged. Large Eastern city. Address: V-87.

INTERNIST: Board eligible or board certified, to work with a team in the supervision and management of cardiovascular patients on a home care research and demonstration project at East Coast medical school. Training in cardiovascular diseases desirable. Geographic full-time appointment available. Address: V-88.

ASSISTANT PATHOLOGIST: Three-hundred bed GM & S university affiliated hospital. Salary rate varies from $9,890.00 to $11,355.00 plus 15% if certified by the American Board of Pathology. Apply to J. Mendeloff, M.D., VA Hospital, Atlanta, Ga.

PHYSIATRIST: Board certified or eligible, for academic appointment in rapidly expanding new department; medical and physical therapy schools, large East Coast city. Excellent opportunity to combine teaching, clinic work and private practice. Address: V-89.

BIOCHEMIST-MICROBIOLOGIST: Position available in medical school pharmacology department for research associate in problems concerned with microbial metabolism, particularly degradation of pharmacologically active compounds. Ph.D. or M.D. with training in microbiology and enzymology. Salary $6,500–8,050 depending on background. Faculty rank with teaching activities optional. Address: V-90.

DIRECTOR OF MEDICAL EDUCATION: Internal medicine specialist preferred for full-time position in 320-bed hospital. Hospital has university affiliation. Beginning salary $18,000 per year. Address: V-91.

PSYCHIATRISTS: Geographical full-time faculty appointments available; one position open in Division of Child Psychiatry and two positions open in Division of Adult Psychiatry, University of Minnesota Medical School. Academic rank and university salary open to negotiation on basis of professional attainments. Opportunities for teaching, research and some private practice. Write to Dr. Donald W. Hastings, Box 393 Mayo Memorial Hospital, Minneapolis 14, Minn.

BIOSTATISTICIAN: Ph.D. Research in child growth studies; opportunities for varied consultation and teaching at Dental School located in large medical center; modern computing facilities available. Salary, from $9,000 and academic rank dependent upon qualifications. Write to Dr. Bhim Savara, Head of Dept., Child Study Clinic, University of Oregon Dental School, 611 S.W. Campus Drive, Portland 1, Oregon.

PHYSIATRIST: Board certified, mature personality, Chief, Physical Medicine and Rehabilitation Service, large affiliated general VA Hospital, Southwest Challenging residency and research programs. Qualified for professorial appointment. Salary $14,685 to $16,000. Address: V-92.

DIRECTOR OF PROFESSIONAL SERVICES: Large affiliated VA General Hospital. Certified specialist with more than casual experience residencies and research, and flair for administration. Faculty appointment appropriate for qualifications. Active expanding research program. Ambitious, mature personality. $14,685–$16,000. Address: V-93.

PSYCHIATRIST: Full-time academic opportunity for a Board Certified psychiatrist seeking a career in teaching and research in a long established medical school in the Northeast undergoing expansion. Would direct an Out Patient (adolescent and adult) Psychiatric Clinic team of physicians, psychologists and social workers, and teach groups of senior medical students and psychiatric residents with assistance of eight Board Certified part-time instructors. A limited amount of private practice and consultation work is allowed in addition to salary in the $14,000–$20,000 range; starting figure and academic rank depending upon training and experience. Write to W. L. Holt, Jr., M.D., professor of psychiatry, Albany Medical College, Albany, N.Y.

ANATOMIST: Assistant professor required for teaching gross anatomy. Excellent research opportunities in other branches of anatomy (electron-microscopy, histology, experimental pathology, tissue culture). Salary, $7,300–$8,500 depending on experience and qualifications. Write to R. Altschul, M.D., Department of Anatomy, University of Saskatchewan, Saskatoon, Canada.

ANATOMIST: Medical school in Midwest with excellent research facilities for neurophysiological studies. Teaching assignments in gross and neuroanatomy. Rank and salary dependent upon qualifications. Address: V-94.

MICROBIOLOGIST: The University of Alberta invites applications for the position of assistant professor in the department of medical bacteriology. Candidates should be medically qualified or possess a higher science degree. Experience in medical bacteriology or virology is useful but applicable experience in basic science fields may be as valuable. Teaching and research duties with variable amount of service responsibility depending on nature of appointment. Present salary range $6,000–$8,200. Applications and inquiries which should be accompanied by full curriculum vitae may be sent to the Dean, Faculty of Medicine, the University of Alberta, Edmonton, Alberta, Canada.

BIOCHEMIST: Ph.D., full-time investigation of fundamental aspects of peritonitis plus independent research. Joint academic appointment. Salary dependent upon professional experience. Department of Surgery, Louisiana State University School of Medicine, New Orleans 12, La.

ORTHOPEDIC SURGEON: Professor and head of department of orthopedics required. Full-time position with emphasis on developing research program in East Coast Medical School. Address: V-95.

PEDIATRICIAN: Full-time university appointment. For active teaching program of undergraduates and residents. Interest in teaching general pediatrics and child health; specialized interests also encouraged. Rank and salary commensurate with experience. Mail curriculum vitae to V-96.

PHARMACOLOGIST: Full-time appointment as assistant professor in department of pharmacology, Ph.D or M.D. Salary, $6,000 to $8,500 according to qualifications. Interested candidates should send a complete curriculum vitae and recent photograph to Dr. M. F. Murnaghan, Professor and Head, Department of Pharmacology, University of Ottawa, Ottawa 2, Ontario, Canada.

PSYCHIATRIST: Full-time academic position as instructor or assistant professor in dynamic new department of psychiatry. Opportunities for teaching, research, and clinical experience on inpatient, outpatient, and/or consultation services. Departmental emphasis is on community psychiatry. Must have completed approved residency training. Rank and salary based on qualifications and ability. Write: Dr. James M. A. Weiss, Department of Psychiatry, University of Missouri School of Medicine, Columbia, Mo.

To aid in solution of the problem of faculty vacancies, MEDICAL EDUCATION will list persons and positions available, as a free service. The school department or person may have the option of being identified in these columns or of being assigned a key number for each position listed. Mail addressed to key numbers will be forwarded to the person or department listing the request.

Information for these columns should reach the Personnel Exchange, Journal of Medical Education, 2530 Ridge Avenue, Evanston, Illinois, not later than the 10th of the month which precedes the month in which the listings will appear.

Personnel Available

INTERNIST: Board certified, university trained, with one year training in clinical cardiology and one year in cardiovascular laboratory. Presently holding position as university instructor. Desires faculty appointment with teaching and research in clinical cardiology and electrocardiography. Address: A-425.

ANATOMIST: Ten years teaching experience; all phases of medical school anatomy. Broad research interests with grant support in gross anatomy and histology. Desires university appointment. Northeast or northwest preferred. Address: A-426.

ZOOLOGIST: Ph.D., age 43, married, family. Desires teaching microanatomy in medical school. Experience: medical school teaching (medical parasitology); USPHS senior assistant scientist, foreign experience as malariologist; undergraduate teaching, including 6 years instructing pre-medical students in histology. Publications, active research program; current interest: histochemistry techniques in study of cellular basis of resistance to a parasitic infection. Willing also to instruct in parasitology, if situation permits. Available with one semester notice to present employer. Address: A-427.

ANATOMIST: M.B., Ch.B. (Witwatersrand, Johannesburg, South Africa), F.R.C.S. (Edinburgh). Age 52, desires position in medical school as senior lecturer in anatomy. Presently located at University of The Witwatersrand as official lecturer in anatomy; part-time senior lecturer in gross and applied anatomy since 1949. Publications. Surgeon to Union Defence Forces, 1940–46 with rank of major. In private practice as a general surgeon since 1946. Address: A-428.

PHARMACOLOGIST-CLINICAL: M.D., Ph.D., age 33, licensed physician. Publications, academic and industrial experience, some psychiatric training. Desires teaching position. Address: A-430.

HUMAN GENETICIST: Ph.D., age 36, seven years experience at leading human genetics center, including heredity clinic service, population surveys of hereditary traits, and statistical analyses. Fourteen publications. Desires permanent university position, preferably research and teaching. Address: A-431.

CERTIFIED INTERNIST: Age 38, experienced in diabetes, endocrinology, radioisotopes (licensed by AEC). Several years direction of medical residency training program, and radioisotope unit in large teaching hospital, and Assistant Professor of Medicine in charge of student diabetes clinics. Now in private practice. Desires return to full-time teaching hospital and/or medical school. Address: A-433.

GROSS ANATOMIST: Ph.D. Eight years teaching experience; desires academic position in medical or dental school. Available summer 1960. Address: A-434.

PHYSIOLOGIST-BIOCHEMIST: Ph.D. Faculty member medical school. Interdisciplinary major grant research program (3 technicians) in basic and clinical aspects of endocrine physiology, metabolism, biochemistry. Publications, societies, radioisotope experience, training in statistical design. References. Desires faculty career appointment teaching physiology and/or biochemistry with facilities and climate to develop research program. Address: A-435.

INTERNIST: M.D., age 35. Currently on faculty of Eastern medical school. Experience in private practice and industrial medicine. Eight months experience and training in psychiatry. Desires faculty appointment with opportunity for clinical investigation in cardiovascular diseases, as well as teaching general medicine in teaching hospital. Address: A-436.

BIOCHEMIST-ENZYMOLOGIST: Six years teaching and research experience in medical school. Currently assistant professor in Eastern medical school. Available summer, 1960. Desires relocating with appointment in medical school or research institute. Address: A-437.

PHYSIOLOGIST: Ph.D., leading university. Well trained in biological, physical and chemical sciences. Highest scholastic honors, scholarships, former National Research Council Fellow. Well developed research program on the physiology of growth and aging. Offices held in national scientific societies. Present appointment, associate professor in medical college. Currently in charge of teaching. Seeking appointment with major administrative-teaching responsibilities, with opportunity to continue expanding research study, preferably in the West. Minimum entering salary $12,000. Available Fall, 1960. Address: A-438.

PEDIATRICIAN: Professor and department head. Wishes to relocate for personal reasons. Ten years at present post. Age 43. Numerous publications. Would first consider university or educational foundation position; then, hospital educational program or industry affiliation. Address: A-439.

SURGEON: Cardiovascular and thoracic. M.D. 1947 American medical school. Presently located at Canadian hospital as research fellow in cardiovascular surgery. Desires position in thoracic and cardiovascular surgery, either at clinical level, or in teaching and research. Diplomate, American Board of Surgery. Address: A-440.

HISTOLOGIST-ENDOCRINOLOGIST: Also histochemist-electron microscopist. Age 32; Ph.D., Harvard. Publications, grants and cancer research. Six years teaching experience in histology, embryology and histochemistry. Desires associate professorship or full time research position in a medical school in department of anatomy, biochemistry, pathology or allied clinical science. Address: A-441.

INTERNIST-HEMATOLOGIST: Age 37, Board certified. Interested in all phases of clinical, laboratory, and research hematology, seeking academic position. Experience includes 6 years academic type practice in internal medicine and hematology; brief private practice; research during military service. Address: A-442.

PHYSIOLOGIST-PHARMACOLOGIST: Ph.D., 1954. Male, family. Eleven years teaching experience, currently teaching physiology in dental school. Desires academic position with or without research opportunities. Address: A-444.

ANATOMIST: M.B.B.S., University of Karachi, 1955. Four years teaching experience. Currently with anatomy department in a Pakistan medical school. Desires anatomy instructorship in medical school or university, preferably in northern United States, and opportunity to do summer graduate work. Address: A-445.

INTERNIST: Age 33; certified in medicine. Trained in clinical medicine, teaching and research at university hospital and the N.I.H. Director of medical education at university affiliated hospital in New York City for past three and one-half years. Experience in private practice and epidemiology. Desires geographic full-time position at medical school or hospital, with opportunities for teaching and research as well as consultation and imited practice privileges. Address: A-446.

PREVENTIVE MEDICINE PHYSICIAN: M.D., M.P.H. and Dr. P.H. Desires teaching position on medical school faculty. Numerous publications. Previous teaching and health department experience. Special interests are epidemiology, biostatistics, and preventive medicine. Address: A-447.

PSYCHIATRIST: Age 35; board certified, prefers geographic full-time position at level of assistant professor or higher. Presently teaching part-time as clinical instructor. Experience as hospital out-patient clinic director and director of professional education in State hospital. Established in-patient adolescent service. Married, 5 children. Five articles. Address: A-448.

BACTERIOLOGIST-IMMUNOLOGIST: Ph.D. Married, family. Eleven years experience in clinical bacteriology, serology, and blood grouping and as Director of the blood bank. Extensive teaching experience at medical school level. Publications. Desires hospital position with research potential and university faculty status. Address: A-449.

PHYSICIAN: M.Sc., M.D., age 38, presently on staff of Australian university, desires teaching position in department of medicine at American university. Trained in England and United States. Numerous publications; broad background. Speciality, cardio-vascular diseases. Address: A-450.

PEDIATRICIAN-PUBLIC HEALTH: M.D., M.P.H., Past experience includes private clinical practice, teaching preventive medicine and school health. Fellow, American Academy of Pediatrics. Desires part-time position in public or student health with academic affiliation. Address: A-451.

ADMINISTRATOR: M.D., age 36. Five and one-half years in administration of large federal medical education program and government medical research contracts. Graduate training in clinical pathology. Desires administrative post in medical school, preferably with opportunity for teaching and research. Address: A-452.

EDUCATIONAL DIRECTOR: Surgeon, with seven years' university and administrative experience as assistant professor and director of a large multi-service residency program in a Veterans Administration hospital. Position sought in a university or community hospital, full or part-time, with access to research facilities. Address: A-453.

PATHOLOGIST: Federal pathologist desires chairmanship of department or professorship of anatomic pathology in a university medical school or affiliated civilian general hospital. Currently conducting research which would continue; contributor to medical texts and journals. Availability of space, facilities, full-time personnel and opportunity to teach medical students and train residents deciding factors in accepting a position. Address:A-454.

PHYSIOLOGIST-PHARMACOLOGIST: M.S., Ph.D., age 32, married, 2 children. Nine years training and research experience in physiology and pharmacology, with specialization in cardiac electrophysiology and pharmacology. Former National Heart Institute and American Heart Association research fellow. Desires academic, hospital, or affiliated research institute research appointment with opportunity to initiate and organize own research program in cardiovascular pharmacology and physiology. West Coast location desired. Address: A-455.

INTERNIST: M.D., age 40. Experienced in teaching, clinical investigation (metabolism), patient care, and administration. Desires full-time post with teaching hospital—medical school. Address: A-456.

EXFOLIATIVE CYTOLOGIST: M.D., with 12 years' training. University experience in teaching and research (cytohistochemistry). Desires appointment in a university department or in cancer institute with exfoliative cytology program and opportunities for research. Address: A-457.

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1. Collins-Williams, C.: Canad. M.A.J. 75:934 (Dec. 1) 1956.
2. Kane, S.: Am. Pract. & Digest Treat. 8:65 (Jan.) 1957.

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